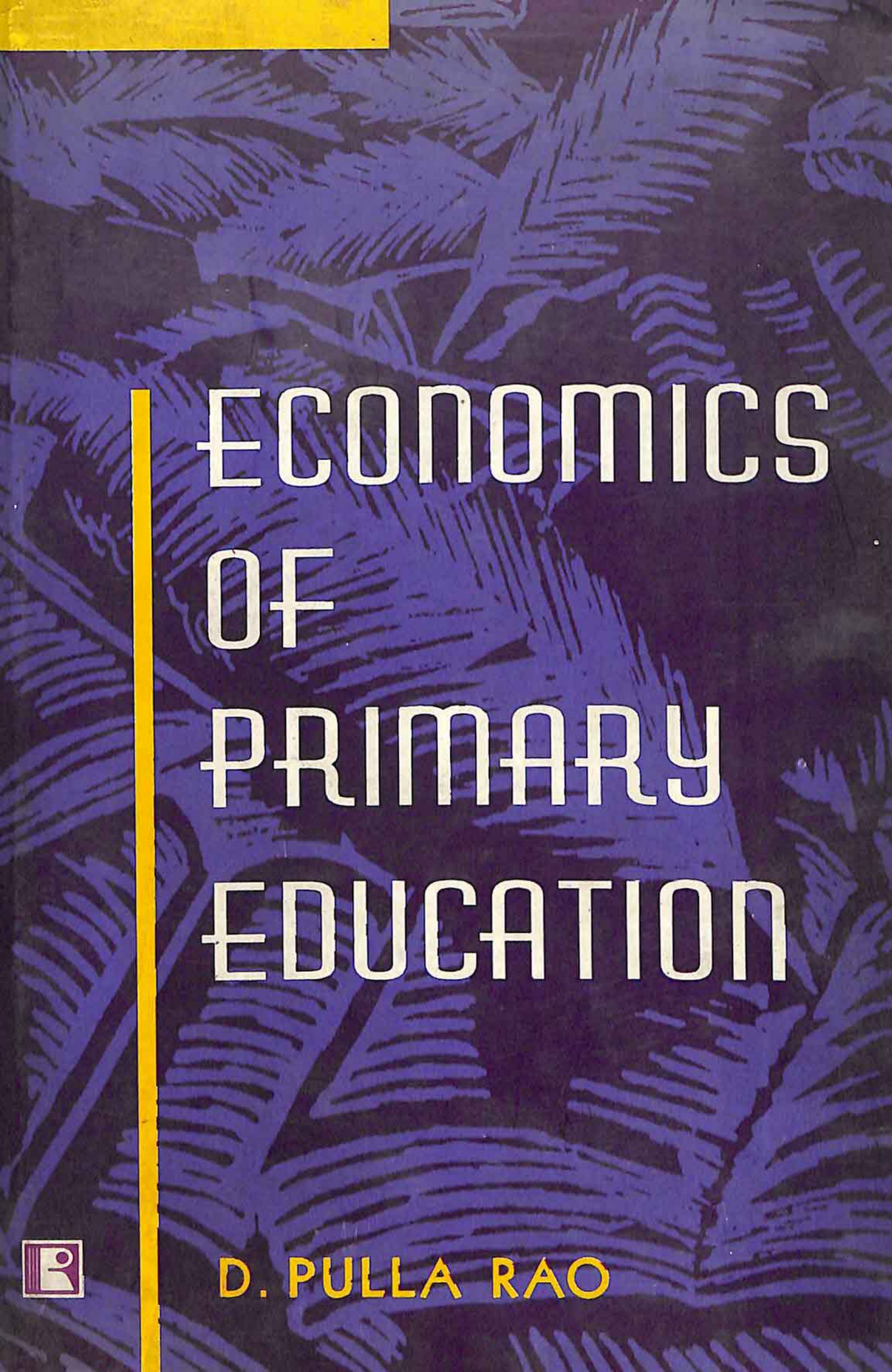

ECONOMICS OF PRIMARY EDUCATION

D. PULLA RAO

Universalization of Elementary Education (UEE) in India by the year 1960 was a constitutional objective. This has not been realized even after 34 years. The Programme of Action of the National Policy on Education (NPE), 1986 envisaged that it will be achieved by the year 1995. This remains to be an elusive target particularly in Andhra Pradesh.

An analysis of the secondary data indicates that there is a decline in the inequalities of enrolments in the state over a period of time. However, the decline in the inequalities among communities and regions are more pronounced in the case of developed coastal Andhra region than in Telangana area.

About 95 per cent of the expenditure on primary education is devoted to the salaries of teachers. The expenditure on equipment and appliances and other such items that determine the quality of education have not been paid adequate attention. The government has emerged as the dominant and almost the sole contributor of the finances for primary education in the state because the resources from endowments and other private sources have dried up. The budget allocations for primary education as a proportion to total education have been declining as compared to higher levels of education.

This unique study which identifies various explanatory factors for the low levels of development in primary education will be a useful work for scholars and practitioners in education and economics.

Primary Education: Economic

Economics of Primary Education

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D. Pulla Rao

S.C.E.R.T. W.B.
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Preface

Primary education plays a vital role in the process of development of human resources. In this direction many studies have been undertaken by the educationists of our country. The state of Andhra Pradesh was formed in the year 1956. The entire education in the state is controlled by both public and private managements. The low levels of development in this area implies that there is no historical advantage which is enjoyed by its neighbouring state Kerala and the economic constraints. The problem need to be studied in detail to ascertain its impact on low literacy.

The Universalization of Elementary Education (UEE) has been recognized as a constitutional obligation in India by the the year 1960 and the same was emphasized in the Eighth Plan. In spite of several efforts made by all sections of the society, this target has not been achieved even after five decades of independence. The primary cause for this gap is identified due to large proportion of the country experiencing low levels in education. Andhra Pradesh occupies ninth position in India in terms of literacy. This situation may be attributed to low allocation of resources, high rate of dropouts etc. These lapses are examined in this present study.

This is a revised version of my Ph.D. thesis submitted to

Andhra University in 1988. I have tried to update the data as far as possible. But there are gaps in information as the latest data relating to education are always seven years old. However, I have incorporated the latest data, wherever it was available.

I am indebted to my research guide Prof. K.S. Chalam, Director, Academic Staff College, Andhra University, for his benevolent guidance and encouragement at various stages in the preparation of this study. His friendly and affectionate attitude has helped me to complete the study. I have been benefited much from his experience, right from the moment I began the work until the time of its completion.

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I express my gratitude to the authorities of Director of School Education and Bureau of Economics and Statistics, Government of Andhra Pradesh, Hyderabad for providing me with the necessary data.

I have great pleasure in thanking my friends Dr. Vijay Babu, Dr. Francis, Dr. Lakshmana Rao, Dr. Srinivasa Rao, Dr. Rama Mohan Rao, Mr. Sai Ramesh and Mr. Venkateswara Rao for their encouragement.

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D. Pulla Rao

Chapter 1

Introduction

Primary education is central to all development in the education sector. Economists have been arguing with sufficient empirical evidence (to say) that education contributes positively to development. A number of studies have been undertaken by researchers to establish the relationship between literacy and socio-economic development.[1] It is, however, necessary to remember that primary education is pivotal for achieving literacy. Therefore, studies relating to the economic aspects of education should necessarily focus attention on primary education.

The state of Andhra Pradesh came into being in 1956 under the States' Reorganization Act, 1956. Education in the state of Andhra Pradesh was under the control of different managements. Even primary education was also managed by different organizations. Unlike the state of Kerala, Andhra Pradesh did not have the historical advantage of early start in education. Perhaps this may be one of the factors responsible for the low levels of development of education in the state. Apart from the historical factors, a number of socio-economic variables must have also contributed to the underdevelopment of education in general and primary education in particular. In studies relating to economic aspects of education, it is a general phenomenon that primary education is given secondary importance. Therefore, it is rational to study the economic aspects of primary education in an educationally underdeveloped state like Andhra Pradesh.

The Problem Stated

Universalization of Elementary Education (UEE) in India by the year 1960 was a constitutional objective. This has not been realized even 38 years after the target year. The programme of action of the National Policy on Education (NPE), 1986 has envisaged that it will be achieved by the year 1995 this has also not been fulfilled. The reasons for not achieving this objective appear to be the existence of large segments of educationally backward states in the country. There are nine educationally backward states in the country as per the 1991 census. Andhra Pradesh is one of the nine educationally backward states and the only state in the south in the country to have this dubious distinction. There are many factors that are enumerated as responsible for the low levels of enrolments at primary education in the state. However, the contribution of the state either to the development or underdevelopment of primary education can be reflected in terms of the resources devoted to this sector, and the way in which these funds are utilized. It is also possible to understand the state's policy towards primary education in terms of the distribution of these facilities among different regions and social groups to achieve the equality of opportunity. The problem of dropouts is one of the important factors responsible for low levels of literacy in the state. Therefore, the amount of money that is wasted in educating the dropouts can suggest the ways and means through which the government expenditure on primary education can be used in future to attain the constitutional objective of universalization of at least primary education by the end of this century in Andhra Pradesh. The above issues, which come under the economics of education, have been examined in this study.

Objectives of the Study

The following are the main objectives for which this study has been undertaken:

1. To examine the rate of growth of primary education in Andhra Pradesh after the formation of the state and to locate the factors determining this growth.
2. To analyze regional and social inequalities in the provision of primary education in the state with special reference to the differences in the dropout rates among scheduled castes, scheduled tribes and backward classes students in primary education in the districts.
3. To examine the structure of expenditure on primary education and change in the structure over a period of time, in real and current prices.
4. To examine the various sources of finance for primary education and to find out the major funding agency for primary education.
5. To study the distribution of expenditure on different items and to see the teachers' intensity in the expenditure.
6. To examine the differences in the budgetary resources for publicly supported primary education over a period, with an intention to see the differences between the actual expenditure and the budget allocation.
7. To examine whether there are economies of scale in the operation of primary schools in view of the huge funds allotted for primary education.
8. To study the concept of wastage in primary education and to pinpoint the trend of wastage in primary education over a period of time.
9. To estimate the costs of wastage due to dropouts in primary education in the state.

10. To suggest an alternative policy to achieve universalisation of primary education in the state in the light of the findings of the study.

Methodology and Data Sources

The methodology has two components. One is related to the collection of data and the other is related to the analysis of data.

We have collected information and data both from primary and secondary sources. The Government of India publication "Education in India" and the State Government publication "Statistical Abstract of Andhra Pradesh" and the budget estimates are the major sources of data for this study. Some data have also been obtained from the records of the Directorate of School Education, Government of Andhra Pradesh, Hyderabad.

In order to obtain data for the study of economies of scale in the operation of primary schools, we have undertaken a sample survey of schools. We have limited the survey to Visakhapatnam district as the district represents all the three segments of our society. It is based on a two-stage sample. First, we have selected four mandals to represent the three segments of the society, i.e., urban, rural and tribal. Out of the 42 mandals in the district, we have stratified the mandals and selected only four mandals to represent a scheduled castes mandal, a tribal mandal, a sparsely populated mandal and an urban area respectively. The demographic statistics collected by the district administration for the mandal system has been used as the basis to select the mandals. The population in the mandal is taken as the criterion. The highest concentration of scheduled castes from among the 42 mandals is found in Payakaraopeta and the highest concentration of tribes are recorded in Chintapalli mandal. The Chidikada mandal was selected to represent sparsely populated mandal as this mandal represents the lowest density among all the mandals. Visakhapatnam city is selected to represent the urban area. In the second stage, we have selected the schools in each mandal. After a careful examination of the school system in the district, we have decided to collect data from all the schools in mandal. There are 39 schools in Payakaraopeta mandal of which 37 schools responded. In the Chintapalli mandal 18 out of 34 have furnished the information. Similarly, in Chidikada, 16 out of 26 schools have responded to our schedule. The data relating to enrolment and expenditure on various items such as (a) salaries of teachers, (b) salaries of non-teaching staff, (c) common services, (d) scholarships, (e) buildings, and (f) vacant land have been collected from each school in the mandal through a schedule during the year 1986. While tabulating the data, the standard procedures, as suggested by Coombs and Hallack[2] in the calculation of unit costs, have been followed.

The above data have been used to test the scale economies with the help of the following regression equation:

$$Y_1 = a + bX_1 + cX_1^2$$

where,

Y_1 = unit cost of education per pupil in a school

X_1 = enrolment in a school

If the coefficient of variable of Ist order (b) is negative and that of 2nd order (c) is positive, the economies of scale are said to be operating.

We have used the following regression equation to find out the determinants of primary education:

$$\log Y = a + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \beta_4 \log X_4$$

where,

X_1 = population in the age group 6-11

X_2 = per capita SDP in current prices

X_3 = number of schools per 10,000 population

X_4 = proportion of SC and ST population to total population

Y = enrolment at primary level

β_1, β_2, β_3 and β_4 are the coefficients of $\log X_1$, $\log X_2$, $\log X_3$ and $\log X_4$ and indicate their elasticities.[3]

The inequality in the distribution of the growth of primary education between genders and years has been measured with the help of the coefficient of variation (CV).

$$CV = \frac{\sigma}{\bar{x}} \times 100$$

where,

σ = standard deviation

$\bar{x}$ = mean

The costs of wastage have been estimated with the help of Q.U. Khan's method of physical efficiency coefficients.

Growth rates are calculated with the help of regression equation:

$$\log Y = a + bt$$

where,

Y = dependent variable

t = time

a, b = constants

Plan of the Study

The study is divided into ten chapters. A review of the previous studies in economics of education is presented in Chapter 2. The growth of primary education in Andhra Pradesh is discussed in Chapter 3. Chapter 4 deals with the distributional aspects of the growth of primary education.

In Chapter 5, the structure of expenditure on primary education is examined. The budgetary expenditure on primary education is studied in Chapter 6.

The economies of scale in the operation of primary schools are studied with the help of field data in Chapter 7. The costs of wastage in primary education in the state have also been estimated to indicate the efficiency of the system in Chapter 8.

An alternative policy to achieve universalization of primary education is worked out on the basis of the results of the present study in Chapter 9.

Summary and conclusions are provided in Chapter 10.

Notes

1. In the next chapter, a brief review of the studies in the area of economics of education is provided. Some studies relating to economies of scale in the operation of schools are discussed in Chapter 7 and wastage in education is reviewed in Chapter 8.
2. Coombs, P.H. and Hallack, J., *Managing Educational Costs*, Oxford, New York, 1972.
3. The problem of multi-colliniarity has been taken note of while devising the model.

Chapter 2

Economics of Primary Education: A Review

Studies in the area of economics of education have been in existence even prior to the genesis of 'economics of education' in the 1960s. This is because of the fact that education has been under the control of central government in most of the countries of the world and the state support for education has necessarily involved the public financing of education. Therefore, education ministers often to put forward economic arguments in favour of their demands for grants indicating the importance of the subject. The economic arguments generally centred round the finances for education. Some writers, however, argued that financing of education is a 'second-order' problem and comes only after the education sector in terms of the volume of the educational services are taken. But some others argued that financial questions have been raised and answered in most cases before planning of schools and places is undertaken. Therefore, it is through the process of cost-benefit calculations of educational investments, as well as through the analysis of educational expenditure and costs, that the importance of the economic value of education has been recognized by economists for so many years. In this context, educational finance as a branch of study in economics is as old as the discipline itself. But, the importance of the subject gained significance after the presidential address of T.W. Schultz to the American Economic Association in 1960.

The economic value of education has been assessed by researchers by following the four approaches, namely, (1) the simple correlation, (2) the residual approach, (3) the return to education approach, and (4) the forecasting of manpower needs approach.[1] A number of review studies by Blaug,[2] Schiefelbein,[3] Psacharopoulos,[4] Chalam,[5] and others have appeared on various issues relating to economics of education in recent years. There is also evidence to support the argument that the classical and neo-classical writers held ideas relating to the economic value of education.[6] But their ideas were not as systematic and scientific as those of the modern economists of the 1960s, who have developed the subject into an important branch of study in economics. Further, they have not recognized the concept of human capital from which the economics of education is an offshoot. Even in the pre-Smithian economic thought, we can find ideas relating to the economic aspects of education in the writings of various writers.[7] In fact, Adam Smith has recognized the importance of education and the labour power as the true source of wealth of a nation. The socialist writers and leaders have also been arguing a case for education (in the true sense of the economic implications of education) with economic arguments.[8] However, J.S. Mill had objected to view individuals as wealth, because wealth existed only for the sake of people. Alfred Marshall has explained the economic benefits of education in his *Principles*, but later, in the subsequent editions, has dropped it thinking that it would lead to controversies.

Education is now considered an important area of study. It enables us to understand the problems of developing societies. In recent years, it has emerged as an important sub-branch in economics also. Among the economic aspects of education, the consumption vs. investment aspect is the most controversial one.[9] Vaizey, discussing this aspect said that, "it is private consumption because people value it in itself, and spend their money on it, they make decisions either to buy an evening class in dancing or to buy a new sweater. It is public consumption to the extent that the state decides to spend its income on education rather than health, because education is a good thing enjoyed by law. It is investment, however, because... people invest in themselves or in their children, or the state does it for them, quite consciously and deliberately."[10] The OECD conference on 'Economic Growth and Investment in Education' has, however, declared that investment in education is a productive investment.[11] Since education is an investment or addition to the capital stock, it is a necessary condition of economic growth particularly in less developed countries like India.

The studies of Solow[12] and Kendrick[13] indicated that about 46 per cent of the increase in total output of USA could be ascribed to the residual or the so-called 'third factor'. The study of Denison[14] is a path breaking work in the field of economics of education which has proved that there is an unexplained residual which accounts for about 25 per cent of the observed economic growth in USA. However, the main weakness of these studies is the principal assumption that the factors of production are paid according to their marginal productivities. In spite of these limitations, economic analysis of education has been continuing in almost all countries of the world to assess its contribution to development.

Studies on Educational Finance

Financing of education has been discussed both by economists and educationists, as the financial resources required for the sustenance of the system generally come from the public exchequer. However, there are variations in the support for education by the government at different levels of education. It appears that most of the countries publicly finance their school education and the higher education is financed by different sources in different countries. Therefore, there are more studies

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relating to the financing of higher education as compared to school education. We are examining here some of the studies on higher education finance as the studies conducted by researchers on higher education in principle apply to school education also. However, there are certain limitations which need to be kept in mind while applying the principles of public expenditure on higher education to school education. As the number of studies on school finance appear to be limited, we discuss first studies on higher education finance, and later go on to school financing.

There are many studies in the area of higher education finance. Harris[15] in one of his works, has examined the problems of ability to pay for tuition, scholarship programmes, loans and government contributions, pricing of higher education and some of the problems relating to educational marketing. He has pointed out, on the basis of a survey conducted in USA that the increase in educational opportunities made the redistribution of income possible in USA. Therefore, he argued that the tuition fee should be raised since education has increased the capacity of the people to pay for education. In another study,[16] which is a part of his major work just examined above, he discusses some aspects of costs, elasticity of expenditure on education and the potential resources which can yet be tapped. He has pointed out that "the federal government which represents all of us, must assume greater responsibility for education, for our productivity, our defence and our culture depends on a sound educational system."[17]

In his editorial introduction to the OECD study, Harris[18] has touched upon the important financial issues of higher education. In the same study, Vegelnik[19] and Dewitt[20] have specifically discussed the economic and financial aspects of higher education. They also made a comparative analysis of financial systems of higher education in the capitalist and socialist countries, and noted that the socialist countries spend relatively a higher proportion of their GNP on education. The studies noted above broadly relate to the developed nations and to higher education.

Financing of Education in the Developing Countries

The financing of education in the developing nations has also been discussed by OECD study group on economics of education. The OECD conference on Financing of Education for Economic Growth has devoted a section specifically to developing nations.[21] In this section there are three important contributions made by Prest,[22] Musgrave[23] and Goode,[24] on the conceptual and theoretical aspects of educational finance in developing countries. The authors argued in their studies that the underdeveloped countries must provide only simple type of education rather than research oriented education and use portable buildings with shift system rather than monumental buildings. They also suggested tax relief or subsidies to firms which have apprenticeships and training schemes. As far as vouchers for schooling are concerned, Prest has said that "the arguments did not seem strong". Musgrave, in his paper, has given an analytical exposition of the educational investment and financing in the developing nations. In this, he has set out the educational priorities for developing countries, and said that education in these countries is in the nature of capital formation and opined that it should be treated accordingly in times of budget planning. He has also suggested earmarking of certain taxes for education. Goode commented on the suitability of education as a subject of external aid, and discussed the criteria for allocation of aid and the forms of aid to the developing nations. The statistical aspects dealt with in the remaining two papers suggest techniques to project future levels of educational expenditures and economic development. A major criticism of the statistical exercises is that these are based on cross-section data of the countries which are in different stages of development and therefore may not correspond to their historical development. In a more recent study on financing of education in developing countries, the World Bank[25] has provided more useful and relevant policy options for financing of education in poor countries. The study has provided statistical evidence to show how the privatization of higher education and the diversion of finances of higher education to primary education, bring redistribution of income and thus benefit the poor in developing countries.

Studies on India

Atmanand Misra has made an extensive study of the educational finance during the British and post-independence period.[26] He has analyzed the financial resources by different sources and also examined the division of funds between different objects. According to him the problems of educational finance in India are the heavy wastage and ineffectiveness of the system. He has also pointed out the causes that were responsible for changes in the pattern of financing of education in India over a period of time. In his work on grants-in-aid in education, he has discussed some of the financial problems of higher education.[27] He has listed five characteristic principles of grants-in-aid, viz., adequacy, flexibility, stability, simplicity, and security. He has examined the evolution of grants-in-aid system in India, their determinants, sources, and the methods of allocation. He has also given a brief account on the functioning of the grants-in-aid system in different countries and in different states in India. It is found that there is no uniform policy of grants-in-aid followed throughout the country. He has pointed out that the concessions in income tax on donations to educational institutions may bring more funds to education. He has also examined the issue of private enterprise in education and pointed out that the private enterprise in education (privately managed institutions) it emerging as commercial enterprise. However, he felt that the private enterprise in education is indispensable at this stage of development of the country, particularly a higher education.

The Education Commission's (1964-66) task forces on financing of education have discussed the problems of educational finance at length, and suggested far reaching changes like enhancement of tuition fee, betterment levy for qualitative improvements in education with prior approval of the government, etc.[28] Chalam's[29] study on finances and productivity of higher education in Andhra Pradesh is an important addition to the limited literature available in the area. This study is the first attempt to evaluate the higher education programmes in Andhra Pradesh. Though the study has not examined school finances in Andhra Pradesh, the conclusions and policy options suggested by the study are applicable to school education including primary education.

There has always been a controversy on the governments' support for education particularly higher education. Alice M. Rivlin of the Brookings Institute has advocated government support for higher education.[30] She has argued that on the grounds of social justice, subsiding of undergraduate education seems much stronger than subsidizing graduate and professional education. She has further pointed out that the manpower needs of defence, etc., are supplied by education sector and therefore more funds need to be given to higher education by the federal government. She has also delineated the principles on which federal aid is to be given. Wiseman[31] has analyzed the scheme of educational vouchers through which the state distributes to parents 'coupons' with a prescribed purchasing power over educational services with which the parents can supplement their own resources if they wish. He has pointed out that such a system would enable the parents to exercise freedom. Messrs Horobin and Smith[32] criticized this proposal on the ground that education is not a homogeneous commodity and the absence of state provision for education, will give way to powerful private organizations to control education which will ultimately blur the distinction between education and propaganda.

Expenditure and Cost Studies on Education

The interest in the study of the effect of increasing public expenditure on the socio-economic life of individuals has been growing since the time of Wagner, who stated the "law of increasing state activities" in 1980. Pryor[33] discussed the various aspects of public expenditure including education in capitalist and communist countries. He has analyzed the expenditure pattern, behaviour and determinants both on the basis of cross section and time series data relating to 14 nations. In this study, it has been established that the public financing of services brings about a more even per capita consumption of such services over the entire population. He has examined the behaviour of total expenditure on education, relative share of public and private financing and the implications of different methods of financing. In communist countries, a much higher share of educational expenditures is financed publicly and therefore the proportion of working class children at institutions of higher learning is greater. In the analysis of the method of financing education expenditures on the social class composition, the author found that the proportion of students from working class and peasant backgrounds show considerable differences among different countries. It ranged between 35 per cent in USSR to 63 per cent in Bulgaria in the communist nations, and between 8 per cent in Austria to 48 per cent in Greece, in the market economies during 1950s. It is pointed out in this study that the expenditures are centralized due to determinations of curricula, qualifications of teachers, etc., by the central government. Another important conclusion of this study is that the important motives for financing education in the public sector seem to be socio-political and the most relevant economic motive appears to be spreading the burden of financing education over the entire population.

A systematic attempt was made by John Vaizey in 1958 to study the expenditure pattern of education in Great Britain. The same work was thoroughly revised by the author with

John Seehan in 1968.[34] In this study, the expenditures on different levels of education were analyzed both at constant and current prices to find out the share of each level in the total expenditure in UK. It showed that the overall expenditure was falling while the share of expenditure at the higher level of education showed a rising trend. It was also found that the share of capital expenditure in the total expenditure, particularly for the post-war period, was rising. They have analyzed the educational expenditure on different items like teachers' salaries, administration, etc., for the period 1920-1967, in England and Wales, to find out the share of each in total cost. It is found that the share of teachers' salaries remained more or less constant in the post-war years when measured in current prices, while it fell when measured in constant prices. It is also established in their analysis that changes in enrolment and price level have influenced the expenditure per pupil measured in real terms.

Panchamukhi[35] has used the factor analysis to construct the index of educational and health level and regression technique to find out the relationship between expenditures on education and health on one hand, and productivity and income on the other. He has estimated the resource costs and the opportunity costs of education, and pointed out that the government should bear a larger proportion of these costs. Comparing the programme outputs with costs, he concluded that the efficiency of expenditures, especially on education, is on the decline during the period of his study. He found a close relationship between human capital (education and health) and output and labour productivity during the period. He also estimated the educational capital (costs of education) of India.

Chalam[36] has provided a theoretical background to estimate the comprehensive costs of education, and has estimated the costs of university education with reference to the socio-economic background of the students. Sharma[37] has conducted a survey in Delhi colleges, and estimated the unit costs of education. In another study he has tested the 'U' shape of the cost curve in Indian universities. Tilak has conducted a survey of educational institutions in Gurgaon district in Haryana, and estimated the costs of education.[38] The main objectives of all these studies are to find out the sources of revenue and expenditure, to estimate the unit cost of education, and to examine the pattern of expenditure of educational institutions in India.

Along with studies on expenditures on education, researchers in the field of economics of education have been found to estimate the unit costs of education at different levels of education. These estimates are made to calculate the rates of return on different levels of education. There are hundreds of such studies available now in almost all countries of the world. But, the cost estimates of these studies have not examined the structure of the unit cost, and the factors that are responsible for the variation in costs. Therefore, they are of limited application in the studies of financing of education.

Studies on Economics of Primary Education[*]

There are very limited number of studies on the economics of primary education. Even the studies on financing of education in general, do not appear to have devoted much attention to primary education, as primary education in most cases is financed by the State, and as a result it is taken for granted. Therefore, this sector was not considered important enough to draw the attention of the researchers. But, as a matter of fact, the financing of school education, its structure and the trends in the expenditure on it, should have been given more, if not equal importance in view of its grave importance in determining the literacy levels in a country, particularly in developing countries like India.

Formal schooling has a wide variety of impacts on those educated, and on others in a society. Economists and sociologists have concentrated upon the effects of occupational achievement. It is important to review some of the studies that examine the relationship between education, and two specific measurable benefits to the education-income and occupational status.

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[*] Some studies relating to the economies of scale in education are being reviewed in Chapter 7.

Research dealing with effects of educational attainment below the college level, is done by Hanushek.[39] He has studied two data sets: a single California school system and a sample of urban schools in the north-east and the Great Lakes region of USA. Both analyses concentrate on elementary education, and in particular, on production of achievement levels or cognitive ability. Hanushek summarizes his finding as follows: "There is no doubt that family background has a progressive and powerful impact on student achievement; higher socio-economic status is systematically related to higher achievement. The importance of quantity and quality of school inputs is more interesting than the importance of family backgrounds. The analyses indicate that differences among teachers have a significant impact upon the achievement of students....(However) factors which are purchased by the school systems are not for the most part of the characteristics of schools and teachers which are important in determining achievement levels. The bulk of instructional expenditures go toward the purchase of three classes of inputs: class, size, teacher experience, and teacher graduate education... The characteristics of teachers which appear important in the estimated models include teacher verbal ability...., recentness of teacher educational experience, and promotion of non-white teachers (which may be interpreted as a measure of the quality of educational experiences of non-white teachers.)"

Hanushek further points out that differences in per pupil expenditures will not be systematically related to differences in student achievement, because school funds are not spent to purchase those inputs that have important effects on student achievement. Therefore, to measure quality of higher educational institutions merely by expenditures per student misses the point. The problem of rural primary education are different from urban areas in India. A study was undertaken by Alexander Joshua on rural primary education and related it with the adult literacy in Tamil Nadu.[40] He has estimated the wastage in education in Tamil Nadu for the cohort period 1971-1974 at primary level. Later he has identified the causes for such wastage, and finally suggested measures to overcome this problem. The studies of Sharma and Sapra,[41] Naik[42] and others in the field of primary education are only general studies, and do not pertain to the economic aspects of primary education.

The World Bank has recently published a discussion paper on "Analytical Tools for Sector Work in Education".[43] This paper provided the techniques of dealing with some of the important economic issues of education that include unit costs, educational development, economies of scale, equity in the provision of education and other related problems. This is a practical guide for research workers in economics of education. The tools developed in the paper are generally applicable to primary education also.

As far as the studies on financing of primary education in India are concerned, it appears that except Atmanand Misra[44] and the individual contributions to the NCERT book edited by Pandit,[45] there are practically no studies prior to 1970. The interest in the financing of school education seems to have gained importance in the 1980s. Singhal[46] has pointed out that the effort in reducing the problem of wastage and stagnation will go a long way in mobilizing scarce resources for the development of primary education. Padmanabhan[47], in his study on the financial management in Indian education, has examined the system of grants-in-aid to non-government schools and suggested the use of performance budgeting for effective management of education systems. He says that, under this system of budgeting, it is possible to focus attention not only on the process of expenditure, but also on the process of attainment of physical objectives like number of students getting the mid-day meal etc.[48] This will provide guidelines for action. The study of Nair[49] on primary education deals with some socio-economic indicators of development. He has examined the patterns of development of primary education in Kerala, and finally attributed the rapid decline in birth rates and increase in literacy to the early start of education in Kerala. He has developed a technique to estimate the real costs of education, by taking into consideration the total years of schooling to complete a grade at school level.

Studies on Andhra Pradesh

The studies on economic aspects of primary education in Andhra Pradesh are few, apart from the studies of Chalam,[50] Tilak[51], and Rajaiah[52]. Chalam, in his study, examined the private and public costs of school education in a city in Andhra Pradesh, while Tilak's study is distantly related to school education. Tilak has estimated the costs and benefits of school education on the basis of a sample survey conducted in West Godavari district of Andhra Pradesh.

The study of Rajaiah presents an extensive data on primary education in the state of Andhra Pradesh. He presents a general discussion on the relationship between education and economic development. He discusses human capital and cost benefit analysis in the review chapter. Later, the progress of primary education in Andhra Pradesh was analyzed by taking different aspects of primary education like enrolment, number of schools, teachers, internal efficiency or retention and public expenditure on primary education during the period of 1956-57 to 1979-80. He came to the conclusion that primary education in Andhra Pradesh has expanded during the period, though the total educational development is still very weak. He says that the alarming dropout rate in class I is a serious constraint that impedes universalisation of primary education. In spite of the upward trend in enrolment, the low retention rate stowed down the progress of primary education and resulted in a slow growth rate of literacy in the state. The public expenditure on primary education has shown an upward trend. However, the public investment in primary education 1956-57 was nearly 10 per cent of the states revenues, and it has declined to 4.84 per cent in 1978-79. He analyzed the average annual per-pupil expenditure as percentage of NDP per capita, as an index for the progress of primary education and he found that there is no systematic trend. But the study has not analyzed the rich data to indicate what economic factors are impeding educational development in the state. The regional and social inequalities which appear to be responsible for underdevelopment of primary education in Andhra Pradesh have not been examined, though he presented a general discussion on the economics of primary education in Andhra Pradesh.

Economic aspects of primary education in Andhra Pradesh are an important area for an indepth study. It is also necessary to see how the expenditure on primary education is incurred, and examine the trend in the growth of expenditure on primary education in the plan, non-plan and other sources of its financing. The costs of education at this stage are also to be estimated to examine whether the resources are economically utilized, and also to find out the ways and means to overcome the problem of diseconomies in the operation of schools.

As the state of Andhra Pradesh is one of the nine educationally backward States in the country, a study of the economic aspects of primary education, particularly with reference to the growth, distribution, finances and economies of operation, etc., will help to produce some insights into the educational problems of the state. As there are no empirical studies to analyze these problems, the present study is an attempt to fill the gap.

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Chapter 3

The Growth of Primary Education and its Determinants

Primary education in India, and also in the state of Andhra Pradesh, has been under the control of a number of agencies. It is still under the management of some private agencies, though, the state is increasingly taking the responsibility of providing free and compulsory primary education to all. The magnitude of development of primary education, therefore, needs to be examined in order to understand out its impact on the financing of primary education.

This chapter, therefore, seeks to examine the volume of the system and its development over a period of time. The size of the enrolment and the number of children in each school and the teacher student ratio are also examined to find out the magnitude, and its influence on the financing of primary education is analyzed in the subsequent chapters. It is presumed that this analysis will serve as a background for the structure and development of finance for primary education in Andhra Pradesh.

Primary Education before the Formation of the State

India is known for its systematic and ancient institutions of learning. The great universities of Nalanda and Takshasila were world-renowned institutions when the western world did not have a system of ·education. In the present state of Andhra

Pradesh, on the banks of river Krishna, the University of Nagarjunakonda flourished in the medieval period. Even during the period of Golconda Sultanate, secular education was encouraged. Education under the British rule was made universal and a number of experiments like the Taylor's system of grant-in-aid was introduced in Narsapur[1] in coastal Andhra Pradesh. During the British rule in India, three kinds of schools, viz., vernacular, missionary (teaching-English) and government (East India Company) schools teaching either in English or in the vernacular, came into existence in the Andhra region. The establishment of the three examining universities at Calcutta, Bombay and Madras opened vistas for matriculation system in the country. Secondary education, therefore, had become a stage where the student was no more prepared for life alone, and it was also used for the entry into the university system. The present Andhra region, which was then under the Madras Presidency, came under the control of the rules and regulations of the Madras Presidency.

The Hunter Commission gave importance to the development of primary education in the country in its report in the year 1882. The Commission also recommended the establishment of local boards with some control over the system of primary education.[2] At the same time, the Municipal Act and the Local Self-Government Acts were passed during the period of Lord Rippon. Therefore, the Hunter Commission made it obligatory on the part of the local bodies to provide free education in their schools. For the first time, the distinction between English primary schools and vernacular primary schools was abolished. In the Imperial Legislative Council of 1910, Gopalakrishna Gokhale had introduced his famous Elementary Education Bill, seeking free and compulsory primary education for every Indian. But Gokhale's bill could not be pushed through, and later, education was made a separate subject and placed under the control of a member of Viceroy's Executive Council. Later, in 1920, the Madras Province passed an Elementary Education Act to facilitate the formation of district educational councils, consisting of elected and nominated members for a term of three years. The councils were entrusted with the task of registration of schools, provision of grants-in-aid to schools, levying of an education cess at the district level. But they were abolished in 1927, due to their malfunctioning, and their powers were transferred to the District Education Officers. After independence, the famous Articles 29 and 45 were incorporated in the Constitution of India, providing equal right to every citizen to enter into educational institutions, and further making it compulsory upto the age of 14. Article 46 has specifically mentioned about the provision of education to scheduled castes, tribes and other educationally backward classes of people. All these provisions have been equally applied to the Andhra region of the erstwhile Madras State.

In the Telangana region of the present Andhra Pradesh, which was under the control of the Nizam (till the formation of the state in 1956), the education of people was not encouraged in the same manner, as it was done in the British-controlled Andhra region. However, the late Salar Jung was responsible for starting the Oriental College in Hyderabad in 1853-54. This institution gave wide scope for the development of education in the state with five branch schools opened by the Nawab at each gate of the Hyderabad, and they were affiliated to Darul-Uloom or the Oriental College. In the year 1859-60, the Nawab ordered the establishment of Persian and other vernacular schools in every taluk.[3] The revenue administration looked after the administration of education till 1868-69, when a separate education secretary was appointed in the Ministry of Miscellaneous Department. During the period of Sir Mir Mahaboob Alikhan Bahadur, a separate Directorate of Instruction was established to look after the grant-in-aid, educational administration etc. But, the "educational development in this area had however to wait till the introduction of democratic administration in Hyderabad in 1948."[4]

Primary Education After 1956

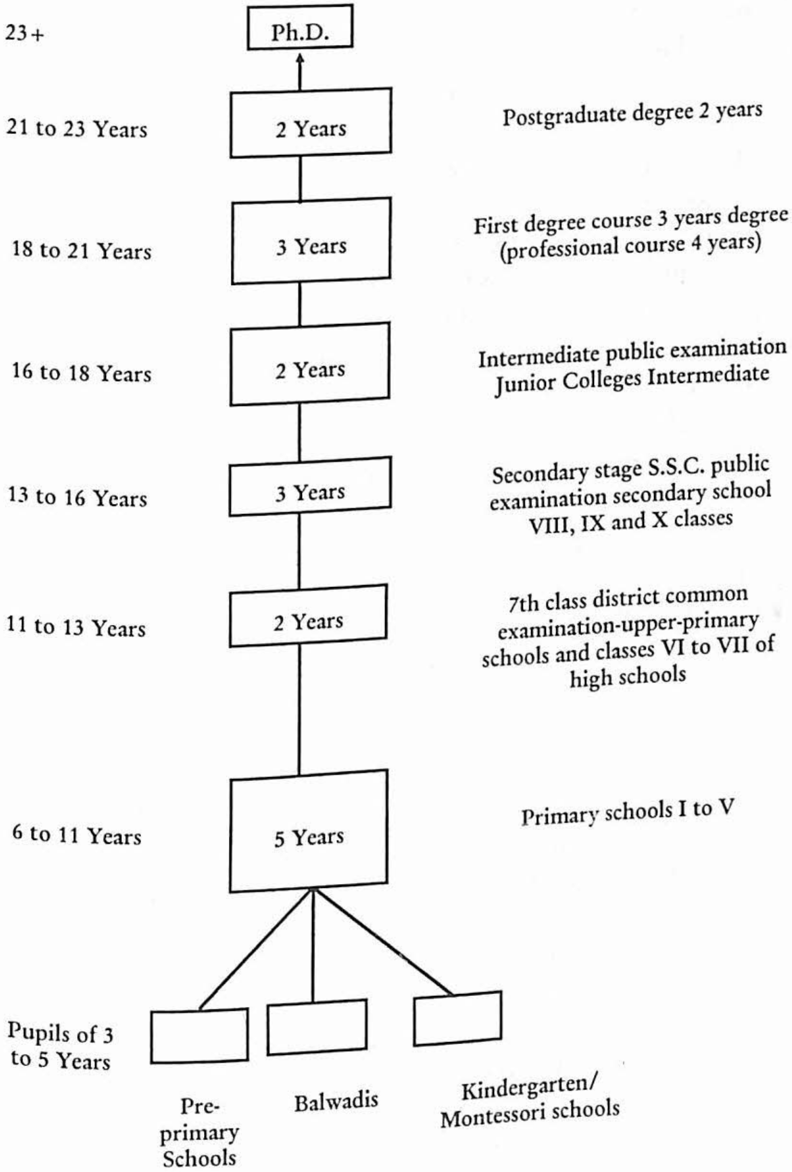
The 11 Telugu-speaking districts of the erstwhile Madras state were separated, and an independent state within the federal structure came into existence as Andhra on 1st October, 1953 with Kurnool as the capital. The nine districts of the Telangana region were later joined with the Andhra region under the States' Reorganization Act in 1956 and a larger state with 20 districts came into being on the first November, 1956 with Hyderabad as the State capital. Therefore, a dual system of education continued in Andhra Pradesh till 1959-60. The secondary school leaving certificate examination in the Andhra region was non-elective, while it was elective in the Telangana region. In order to introduce an integrated course structure in the entire state of Andhra Pradesh, the government set up a common programme from class I from the year 1959-60. When the batch of students of this revised structure came to class VI, the government appointed a high power committee in 1964-65. It is accidental that the high power committee of Andhra Pradesh and the Kothari Commission (1964-65) have recommended a similar structure of education. Andhra Pradesh was the first State in the country to adopt the 10+2+3 structure of education throughout the State from the year 1969. In figure 3.1, the education ladder of the State of Andhra Pradesh is provided. This shows that a child is expected to join the formal school system at the age of 5+ and continues till he or she attains the age of 23+ in the system consisting of different levels of education. Details are given in the Figure 3.1.

Size and Growth of Primary Education

The total number of students enrolled in the schools in Andhra Pradesh is 94,28,648 in the year 1984-85. This number is equal to the total population of Zimbabwe, and also to some of the European countries like Austria. However, we are not concerned here with the total number of the students in the State but we will confine ourselves to primary education only, as our

Figure 3.1

The Educational Ladder of General Education in Andhra Pradesh


23+
Ph.D.
21 to 23 Years
2 Years
Postgraduate degree 2 years
18 to 21 Years
3 Years
First degree course 3 years degree (professional course 4 years)
16 to 18 Years
2 Years
Intermediate public examination Junior Colleges Intermediate
13 to 16 Years
3 Years
Secondary stage S.S.C. public examination secondary school VIII, IX and X classes
11 to 13 Years
2 Years
7th class district common examination-upper-primary schools and classes VI to VII of high schools
6 to 11 Years
5 Years
Primary schools I to V
Pupils of 3 to 5 Years
Pre-primary Schools
Balwadis
Kindergarten/ Montessori schools

study deals with economics of primary education in Andhra Pradesh.

The data relating to the number of schools, enrolment and the number of teachers working in primary schools for the period of the study 1956-57 to 1992-93 are obtained from the Bureau of Economics and Statistics through its publication *Statistical Abstract of Andhra Pradesh*. The data were supplemented by the information collected from the Directorate of School Education, Hyderabad. It was, however, found that there are some discrepancies in the data supplied by the Bureau of Economics and Statistics and the Directorate, particularly with respect to the primary education. Suitable adjustments were made wherever necessary, and the data supplied by the Directorate of School Education are taken as the final one. There is some confusion between enrolment in primary schools and enrolment at primary stage. The former excludes the enrolment in primary sections of the upper-primary schools, whereas in the latter, the enrolment includes that of primary sections in the upper-primary schools also. Therefore, we have taken the latter (schools) definition in our analysis of the size and development of primary education, because the data collected and presented by the Directorate in its publication, *Education in India*, relate to primary schools. This difference is to be kept in mind while understanding the trends in the growth of primary education.

In Table 3.1, the growth of the number of schools and the enrolment into primary education for selected years during the period 1956-57 to 1992-93 is provided. It also gives the rate of enrolment to the corresponding age group and the number of children per school. There were 29,076 primary schools in the entire state of Andhra Pradesh in 1956-57, and the number has increased to 37,320 after ten years in 1965-66, to 40,691 in 1981, and the number now stands at 50,201 in 1992-93. The index of growth, taking 1956-57 as the base, shows that the increase is not substantial, as compared to the growth of population in the corresponding age group of school-going children. The growth of number of institutions in terms of their management (Appendix Table 3.1) shows that over a period, the role of private management has declined and it is limited to around 7.4 per cent of total schools, though its proportion is more in case of upper-primary schools in the year 1992-93.

Table 3.1

Growth of Primary Education in Andhra Pradesh 1956-57 to 1992-93

Year	*School Age Population (6-11 Years)*	*Index*	*Number of Schools*	*Index*	*Number of Children Enrolled (6-11 years)*	*Index*	*Rate of Enrolment to the Corresponding Age Group (per cent)*	*No. of Children per School*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1956-57 (1st Year of Second Plan)	42,35,800	100	29,076	100	24,54,054	100	57.94	84
1960-61 (End of Second Plan)	43,59,800	103	34,040	117	29,76,055	121	68.26	87
1965-66 (End of Third Plan)	49,26,700	116	37,320	128	37,69,174	153	76.51	100
1973-74 (End of Fourth Plan)	62,58,500	148	36,984	127	40,39,989	165	64.55	109
1977-78 (End of Fifth Plan)	64,03,800[1]	152	38,836	133	46,75,907	190	72.55	120
1981-82	64,30,600	151	40,691	139	54,66,075	223	85.0	134
1984-85	72,04,053	170	41,702	143	64,11,608	261	89.1	153
1992-93	71,80,600	169	50,201	172	78,47,179	320	109.07	156

Notes: 1. Relates to 1978-79.

2. From 1973-74 the stages are 6-13 years.

Sources: 1. Directorate of School Education, Hyderabad, Andhra Pradesh.

2. *Statistical Abstracts of Andhra Pradesh*, Hyderabad, for various years.

* Figures related to primary students in both primary and upper-primary schools.

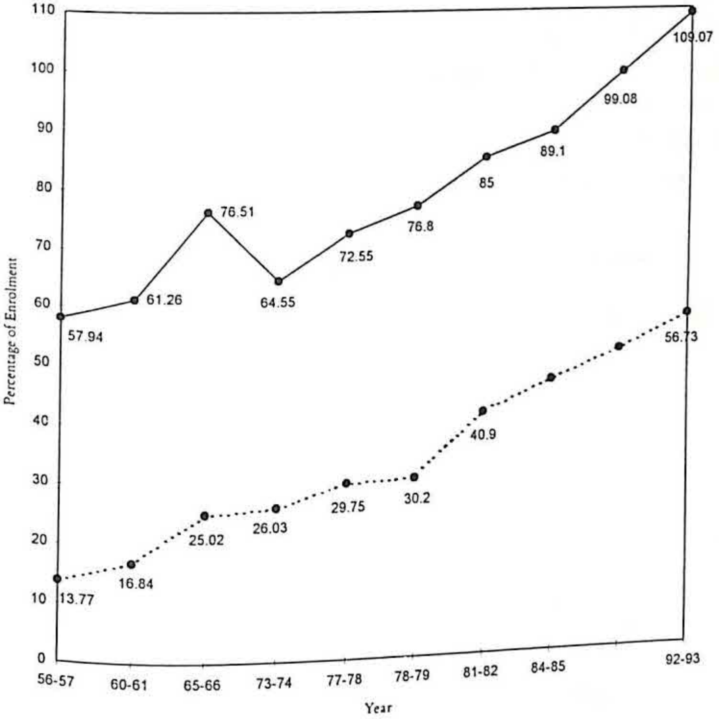
The total enrolment at primary education in the year 1956-57 was 24,54,054. This has increased to 29,76,055 in 1960-61 and it has further increased to 46,75,907 in 1977-78. Now, the enrolment stands at 78,47,179 in 1992-93. The growth in the enrolment in terms of the indices show that there is a substantial increase during the period 1984-85 to 1992-93, the period of the Seventh Plan, where the government has given greater emphasis on the universalization of primary education.

The growth of enrolment and the achievement in the universalization of primary education in the country or in the state of Andhra Pradesh can be discovered only in terms of the achievement with respect to the corresponding age group, as the number of enrolment alone does not convey its proportion to the population. Therefore, we have also estimated the proportion of school-going children enroled into the primary education to find out how many of them are still left. It is interesting to find that the state had an enrolment rate of 57.94 per cent in 1956-57 and the proportion has increased to 68.26 per cent in 1960-61 and to 72.55 per cent in 1977-78. The achievement in terms of the proportion is found to be more during the period 1984-85 to 1992-93 where the proportion has reached 109.07 per cent in 1992-93. But, the figures in Table 3.1 suggest that the state still has a back log of more than 10 per cent in the universalization of primary education. It may be noted that the number of students in each school has increased substantially during the period of the study indicating that the institutions have not increased in response to the increase in enrolment.[5] Figure 3.2 indicates the growth of enrolment at primary and upper-primary stage in the state during 1956-57 to 1992-93.

It may be further noted that the ratio of enrolment to the corresponding age group in Andhra Pradesh is found to be lower than in the neighbouring states at the stage of primary education. It is lower than that of the national average even in 1992-93. More details can be seen from Appendix Table 3.2

Figure 3.2

The Percentage of Enrolment in Primary Schools from 1956-57 to 1992-93 and Upper-Primary Schools from 1956-57 to 1992-93



A — Indicates 6-11 age group of primary schools.
B— Indicates 11-13 age group of upper-primary schools.

Constitutional Guarantee of Elementary Education

The Constitution of India guarantees free and compulsory education to the age group 6-14. It means that the enrolment should be universal upto upper-primary stage. In order to find the achievement of the targets in the compulsory elementary stage that is upto upper-primary stage, the enrolment figures and the number of schools available in the state during the period 1956-57 to 1992-93 are provided in Table 3.2.

Table 3.2 shows that there were only 329 upper-primary schools in 1956-57 and the number has increased substantially to 1466 in 1960-61. The increase is found to be more rapid after 1970s after the educational system was reorganized in 1969-70. Therefore, it is found in the Table 3.2 that the number of schools has increased to 3,662 in 1973-74 to 4,201 in 1977-78 to 5,445 in 1984-85 and to 6,330 in 1992-93. The index of growth of schools shows that the increase is more than 11 times during 1956-57 to 1973-74 than during the later period of the study.

Table 3.2

Growth of Upper-Primary Education in Andhra Pradesh 1956-57 to 1992-93

Year	*School Age Population*	*Number of Schools*	*Index*	*Number of Children Enrolled*	*Rate of Enrolment of the Corres-ponding Age Group (in Percentage)*	*Number of Children per School*
1	*2*	*3*	*4*	*5*	*6*	*7*
1956-57	23,12,600	329	100	3,18,534	13.77	968
1960-61	24,21,700	1,466	445	4,07,885	16.84	278
1965-66	26,00,700	2,578	783	6,50,637	25.02	252
1973-74	22,81,200	3,662	1,113	5,93,685	26.03	162
1977-78	25,12,800	4,201	1,276	7,47,630	29.75	177
1981-82	23,35,800	4,812	1,463	9,55,381	40.90	198
1984-85	-	5,445	1,665	12,05,928	-	221
1992-93	40,17,900	6,330	1,924	22,87,694	56.73	361

Sources: 1. Directorate of School Education, Hyderabad, Andhra Pradesh.
2. *Statistical Abstracts of Andhra Pradesh*, Hyderabad, for various years.

However, the enrolment of students in the upper-primary schools has not shown growth, that is commensurate with the growth of the number of schools. Therefore, we can see that the total number of students enroled in upper-primary schools was 3,18,534 in 1956-57 and the number has increased to 4,07,855 in 1960-61 and to 6,50,637 in 1965-66. The number of students enroled in the year 1973-74 was 5,93,685 and it has increased to

7,47,630 in 1977-78 and to 9,55,381 in 1981-82 and 12,05,928 in 1984-85, and stands now at 22,87,694 in 1992-93. The enrolment in upper-primary schools in terms of rate of enrolment to the corresponding age group was very low in the year 1956-57 with 13.77 per cent. The ratio has increased to 25.02 per cent in 1965-66, and 29.75 per cent in 1977-78. It is a pity that the enrolment has remained less than 50 per cent of the corresponding age group even in 1981-82. It was less than 60 per cent in 1992-93, even about 40 years after the declaration of universalization of elementary education in the constitution.

Slow Rate of Growth of Primary Education as Compared to Higher Education

The rate of growth of the number of institutions and the enrolment of students into primary and upper-primary schools that constitute elementary education can be compared with the growth of higher education in the state during the period of the study. Our statistical data are compared with the studies conducted by Pillai[6] who reviewed the progress of education in Andhra Pradesh including higher education from 1956-57 to 1980-81. It is found that the growth of the number of colleges of general education in the state has increased from 55 in 1956-57 to 213 in 1974-75 and to 430 in 1991-92. It is an increase of eight times during 1956-57 to 1991-92.

If we compare the growth of higher education in the state with that of the elementary education, particularly at the upper-primary stage in the case of enrolment, it is possible to say that it is much higher in case of upper-primary schools. But the expansion of primary education as compared to higher education in the state interestingly shows a very discouraging picture, as it is several times less than that of higher education. This clearly shows the priority of the government in the development of education in the state, which has resulted in low levels of literacy in the state. Many have commented that primary education should have been given more importance and more funds should have been granted to primary education while keeping the growth of higher education at a reasonable level. But this seems to have not been done in Andhra Pradesh.

Increase in Number of Students per Teacher

So far, we have examined the size and growth of primary education in the State during a period of three and half decades in Andhra Pradesh. But, they do not really indicate the quality of education. Though our intention is not to examine the quality indicators as proposed by Kamat[7] to measure the quality of education in this chapter, we, however, intend to indicate the student-teacher ratio which generally shows the quality of education. It is also our purpose to examine the number of teachers employed in the primary schools in the state, and the rate of growth of the number of teachers during the period of the study. The data are presented in Table 3.3 which shows that there were 77,065 teachers employed in primary schools in 1956-57, of which only 13,759 were women, constituting just 17.8 per cent. The number has increased to 79,923 in 1965-66 to 79,026 in 1977-78, and finally the number came to 1,14,460 in 1992-94. The number of women teachers in the year 1992-93 is 34,935, constituting 30.5 per cent of the total teachers. This indicates only the size of the teaching community involved in the process of primary education.

But, a more interesting picture emerges when the rate of growth of the teachers is examined. As is clean from the Table 3.3, that the index of growth of men and women teachers does not indicate any trend. The index of growth of men teachers has come down to 96 in 1960-61, and reached just 100 in 1965-66 and again declined to 97 in 1973-74 and reached its all time low of 94 in 1977-78. It increased to just 106 in 1984-85 and to 126 in 1992-93. However, there is some positive change in the case of women teachers from 1965-66. The index had first declined to 97 in 1960-61 and then reached to 132 in 1973-74 and there has been a continuous increase thereafter and finally reached 179 in the year 1984-85. The index stands at 254 in 1992-93 showing a remarkable increase. This has an influence on the total index, which shows a positive sign for 1965-66, though it declined in 1960-61. It appears that the decline in the number of men teachers has been compensated by an increase in the appointment of women teachers, making however, the total number of teachers employed in the system remain within the range of 73-79 thousands in the entire period. But this number has crossed the mark of 1 lakh in 1990-91. The increase in the number of teachers in 1992-93 is due to the conversion of a number of single teacher schools into plural, by appointing an additional teacher on consolidated pay of Rs. 398 per month.

Table 3.3

Number of Teachers Appointed in the Primary Schools of Andhra Pradesh 1956-57 to 1992-93

Year	*Men*	*Index*	*Women*	*Index*	*Total*	*Index*	*Pupil Teacher Ratio[1](Number of Students per Teacher)*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1956-57	63306	100	13759	100	77065	100	32.20
1960-61	60524	96	13362	97	73886	96	38.13
1965-66	63253	100	16670	121	79923	104	39.84
1973-74	61446	97	18230	132	79676	103	39.33
1977-78	59279	94	19747	143	79026	103	44.48
1984-85	67308	106	24689	179	91997	119	52.56
1990-91	79219	125	31638	229	110857	143	53.00
1992-93	79525	126	34935	254	114460	148	53.15

Note: 1. The data provided here pertains to primary schools only, and therefore does not include sections in upper-primary schools.

Sources: 1. *Two Decades of Growth in Education*, Education Department, Hyderabad, Andhra Pradesh, 1976.

2. *Hand Book of Statistics, Andhra Pradesh*, Hyderabad, for selected years.

It is interesting to note that the number of teachers has not increased in the state in consonance with the increase in the number of students enroled. This has resulted in the increase in the student teacher ratio over time. In the last column of the Table 3.3 the student-teacher ratio is presented. It shows that the ratio of 32.20 students per one teacher in 1956-57 has increased to 38.13 students in 1960-61. It is found that the number of students per teacher has been constantly increasing year after year (in the Table 3.3 for selected years) and finally reached 52.56 students per teacher in 1984-85, and it stands at 53.15 students in 1992-93. Though the government has been insisting on a student-teacher ratio of 30 students per teacher for aided schools, it has never been possible for the government to achieve this objective. The data presented in Table 3.3 indicate only a state average, but in most of the schools, the number is observed to be more than 100. This adversely affects the quality of education at primary level, where the school teacher does not find any motive to teach such a huge number, let alone the much needed individual attention needed at the stage of primary education. This is one of the reasons for the large number of push outs, who ultimately dropout of the system, due to its poor physical conditions.

The Determinants of Enrolment

After examining the growth of primary education in Andhra Pradesh, an attempt is made here to pinpoint the determinants of the slow progress of primary education in Andhra Pradesh during the period 1956-57 to 1984-85. We have considered here the time series data relating to four variables. They are: (1) the population in the age group 6-11 years in the state, (2) the per capita domestic product in current prices, (3) number of primary schools per 10,000 population in the state, and (4) proportion of scheduled castes and tribes population to total population. These four variables have been considered after careful examination of the data relating to various aspects of primary education. The association between enrolment in the primary education and the population in the age group has been assumed to be positive as the enrolment depends upon the number of eligible children in that age group. The association between enrolment and per capita SDP is also assumed to be positive. The association between number of primary schools per 10,000 population, which indicates the distribution of facilities and the enrolment, is again assumed to be positive. The relationship between scheduled caste population and scheduled tribe population who are considered to be educationally backward, and the enrolment in primary education is assumed to be negative.

The data are presented in Appendix Table 3.3. The data show that the population in the age group of 6-11 has been constantly increasing during the period of the study, though there are variations in between. It is observed that absolute numbers have increased during the early 1960s than in the late 1950s. Similarly, the per capita SDP in the state has been increasing over the years except in 1965-66, 1968-69 and 1976-77, where the number are found to be less than the previous years. Interestingly, the number of primary schools per 10,000 population has increased positively upto the year 1962-63, and has slowed down upto 1967-68. They have started declining very fast from the year 1973-74. The proportion of the SC and ST population is found decreased during the period 1961-71, and increased during the period 1971-81. However, the data relating to this variable are based on the estimates.

The following multiple regression equation has been used to establish the above association:

$$\log Y = a + \beta_1 \log X_1 + \beta_2 \log X_2 + \beta_3 \log X_3 + \beta_4 \log X_4$$

where,

X_1 = population in the age group 6-11
X_2 = per capita SDP in current prices
X_3 = number of schools per 10,000 population
X_4 = proportion of SC and ST population in the total population

Y = enrolment at primary education

β_1, β_2, β_3 and β_4 are the respective coefficients of X_1, X_2, X_3 and X_4. The equation is expressed in the logarithmic form to obtain the elasticities.

The results are presented below:

$$\log Y = -12.572 + 1.135(4.069)^{*} \log X_1 + 0.136(1.484)^{**} \log X_2 + 1.951(8.129)^{*} \log X_3 + 1.754(4.468)^{*} \log X_4$$

$R^{-2} = 0.967$; $F = 209.571$

* Significant at 1 per cent level

** Significant at 15 per cent level

The figures in the brackets indicate t-values.

The R^{-2} is found to be significant at 1 per cent level (the coefficient is 0.967) and shows the reliability of the model. The results show that the expected sign for scheduled castes and tribes population has been positive instead of the expected negative sign, indicating that the increase in the population of the scheduled castes and tribes does not reduce the enrolment, and on the other hand, positively contributes to enrolment. The population in the age group (6-11) and the number of schools per 10,000 population positively contribute to the enrolment. However, the economic status of the population in terms of their income (as the results show), do not bring any substantial improvements in the enrolment in schools, as is popularly believed. The coefficient is found to be less than one (0.136) and is not statistically significant. The most significant of the four variables considered is found to be interestingly, the number of schools per 10,000 population (1.95) i.e., the availability of schooling facility in rural areas. It may therefore, be said that the slow rate of growth in the enrolment of students in primary education is largely due to the lack of facilities available in the state, and it is striking that these facilities have started declining from the year 1973-74. The major thrust policy of the government to increase enrolment should have been to increase the number of schools proportionately, and even more than proportionate, to the increase in the population of the children in the age group (6-11), so that more facilities of schooling would have induced parents to send their children to schools.

Conclusions

The analysis presented in this chapter in terms of the size and growth of primary education is revealing. It is found that the size of the primary education in Andhra Pradesh is as big as the population of some of the smaller African countries. But, in terms of its proportion to the corresponding school-going age group, the rate is still found to be below the objectives of the Constitution. The more distressing aspect of the growth of the enrolment of students in primary education is, that it is much lower than upper-primary, and also higher education. It seems that the state has yet to devise a systematic policy to achieve the constitutional objective of universalisation of elementary education, that include primary education in the first stage. The enrolment rate at the elementary stage (upper-primary) is found to be less than 50 per cent. The state seems to have not drawn any lessons from its experience of low level of enrolment ratio at the primary stage. This is clearly reflected in the appointment of teachers for primary schools. It is found that there has been no increase in the number of teachers appointed, the number being constant around 79 thousands for a long period, crossing it only in 1990-91. However, there is a continuous trend of increase in the number of students per teacher, which stood at 53.15 students per teacher in 1992-93. This erratic behaviour in the trend of the appointment of teachers and its influence on the student-teacher ratio would definitely affect the nature of financing of primary education. It is hoped that this will be of use to us in analyzing the finances of primary education in the subsequent chapters of the study. The regressive results show that the economic status and social backwardness of the population are not the real factors in explaining the low levels of enrolment at primary education. It is found that the increase in the expansion of facilities would positively contribute to enrolment.

Appendix

Table 3.1

Primary Schools by Management for Selected Years

Year	*Type of Schools*	*Management*				
		Central Government	*State Government*	*Local Bodies*	*Private*	*Total*
1	*2*	*3*	*4*	*5*	*6*	*7*
1956-57	Primary	20 (0.07)	7501 (25.80)	11006 (37.85)	10549 (36.85)	29076 (100.00)
	Upper-primary	6 (1.82)	139 (42.25)	83 (25.23)	101 (30.70)	329 (100.00)
1960-61	Primary	37 (0.10)	4136 (11.98)	28189 (81.66)	2161 (6.26)	34523 (100.00)
	Upper-primary	6 (0.61)	117 (11.90)	709 (72.13)	151 (15.36)	983 (100.00)
1965-66	Primary	30 (0.08)	937 (2.51)	34381 (92.13)	1972 (5.28)	37320 (100.00)
	Upper-primary	5 (0.19)	156 (6.05)	2156 (83.63)	261 (10.13)	2578 (100.00)
1968-69	Primary	27 (0.07)	924 (2.51)	33919 (91.97)	2009 (5.45)	36879 (100.00)
	Upper-primary	8 (0.27)	204 (7.00)	2427 (83.26)	276 (9.47)	2915 (100.00)

Contd...

Contd...

1973-74	Primary	32	871	33928	2153	36984
		(0.09)	(2.35)	(91.74)	(5.82)	(100.00)
	Upper-primary	7	239	3000	416	3662
		(0.19)	(6.53)	(81.92)	(11.36)	(100.00)
1974-75	Primary	32	871	33824	2168	36895
		(0.09)	(2.36)	(91.67)	(5.88)	(100.00)
	Upper-primary	7	239	3036	420	3702
		(0.19)	(6.46)	(82.00)	(82.00)	(100.00)
1982-83	Primary	23	1277	37592	2399	41291
		(0.05)	(3.09)	(91.04)	(5.82)	(100.00)
	Upper-primary	7	389	4027	633	5056
		(0.14)	(7.69)	(79.65)	(12.52)	(100.00)
1985-86	Primary	23	1058	38256	2517	41854
		(0.06)	(2.53)	(91.40)	(6.01)	(100.00)
	Upper-primary	5	286	4416	873	5580
		(0.10)	(5.12)	(79.14)	(15.64)	(100.00)
1992-93	Primary	21	3699	42771	3710	50201
		(0.04)	(7.37)	(85.19)	(7.40)	(100.00)
	Upper-primary	3	363	4752	1212	6330
		(0.05)	(5.73)	(75.07)	(19.15)	(100.00)

Note: Figures in brackets indicate percentage to the total.

Source: *Statistical Abstracts of Andhra Pradesh*, for various years.

Table 3.2

Statewise Enrolment in Primary Education (Classes I-V) as a Percentage to Total Population in the Age Group 6-11, Years 1960-61, 1970-71, 1979-80, 1984-85 and 1991-92

S.No.	*Sate*	*1960-61*			*1970-71*		
		Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*
1.	Andhra Pradesh	84.3	52.2	68.3	83.4	58.2	71.2
2.	Assam	84.7	50.4	67.7	81.3	55.9	68.8
3.	Bihar	76.0	24.1	50.7	80.6	29.1	55.7
4.	Gujarat	90.1	52.9	72.1	99.4	63.6	82.1
5.	Jammu & Kashmir	71.0	20.7	46.6	85.1	60.3	72.7
6.	Kerala	98.8	98.8	98.8	124.7	114.6	119.7
7.	Madhya Pradesh	75.0	22.4	49.2	76.4	32.0	54.8
8.	Tamil Nadu	98.8	65.9	85.5	117.8	93.4	105.9
9.	Maharashtra	95.1	58.4	77.7	102.2	72.4	87.8
10.	Karnataka	91.9	55.3	73.8	98.2	75.4	87.1
11.	Orissa	89.3	39.0	63.7	87.3	47.3	67.6
12.	Punjab	65.0	34.7	50.8	80.9	62.2	72.0
13.	Rajasthan	64.0	16.3	40.9	72.8	22.0	48.3
14.	Uttar Pradesh	68.8	19.5	44.7	113.1	73.2	94.2
15.	West Bengal	83.7	45.9	64.9	95.1	61.9	78.9
16.	Delhi	90.2	75.5	83.4	84.6	81.0	82.9
17.	Himachal Pradesh	79.6	20.9	50.9	106.4	60.5	83.0
18.	Tripura	71.8	38.1	45.2	83.4	59.1	71.5
19.	Manipur	98.8	74.7	98.0	141.1	104.2	124.0
20.	Nagaland	98.8	68.4	90.8	140.5	115.6	129.0
	India	82.6	41.4	62.4	95.0	60.5	78.6

Column Contd...

S. No.	*State*	*1979-80*			*1984-85*			*1991-92*		
		Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*	*Boys*	*Girls*	*Total*
	1	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
1.	Andhra Pradesh	71.2	67.7	81.0	101.1	76.9	89.1	123.2	94.8	109.2

Contd...

Contd...

2.	Assam	90.0*	67.1*	78.8*	84.9	70.9	78.1	116.8	108.6	112.8
3.	Bihar	104.2	47.4	76.7	93.3	59.0	76.6	104.6	55.5	80.5
4.	Gujarat	118.7	84.6	102.2	120.6	89.8	105.3	141.8	110.6	126.5
5.	Jammu & Kashmir	93.3	51.7	72.4	99.3	64.6	82.4	101.8	71.2	86.9
6.	Kerala	103.4	102.2	102.8	107.7	98.5	103.1	100.0	98.1	99.1
7.	Madhya Pradesh	84.9	43.2	64.8	101.1	95.0	85.7	119.2	88.8	104.5
8.	Tamil Nadu	121.1	103.3	112.2	131.7	114.3	123.1	142.3	127.9	135.2
9.	Maharashtra	124.4	97.5	111.4	122.4	102.5	112.9	132.3	119.3	126.0
10.	Karnataka	73.3	81.4	86.8	86.8	86.8	71.4	79.3	115.4	106.5
11.	Orissa	96.5	66.9	82.2	106.7	72.7	89.8	119.5	86.5	103.4
12.	Punjab	118.1	107.6	113.0	104.9	97.0	101.3	102.0	94.5	98.4
13.	Rajasthan	88.0	30.4	60.2	111.7	50.8	82.7	106.7	50.1	79.2
14.	Uttar Pradesh	91.0	45.1	68.9	92.0	49.7	72.3	104.9	66.9	86.9
15.	West Bengal	104.4	69.7	87.4	117.4	95.7	107.2	139.8	107.9	124.1
16.	Delhi	104.8	91.7	98.3	107.7	90.3	97.3	86.6	88.1	87.3
17.	Himachal Pradesh	126.8	85.6	105.6	110.9	88.3	99.7	125.3	108.7	117.0
18.	Tripura	94.7	66.9	80.7	144.6	119.1	132.2	143.5	121.5	132.6
19.	Manipur	97.7	73.3	85.3	106.0	99.5	102.8	116.6	104.3	110.6
20.	Nagaland	137.5	117.9	127.8	106.4	115.7	110.6	114.4	104.2	109.4
	India	100.2	65.9	83.6	117.5	69.2	91.8	116.6	88.1	102.7

* Class I-IV

Sources:
1. For 1960-61, *Education in India*, Ministry of Education, Government of India, pp.52-113.
2. For 1970-71, *Education in India* Ministry of Education, Government of India, pp.161-162.
3. For 1978-79, NIEPA, *Selected Indicators of Educational Development in India*, New Delhi, pp.9-10.
4. For 1979-80, Planning Commission, Government of India, *Sixth Five Year Plan* (1980-85), pp.362-64.
5. For 1984-85, Planning Commission, Government of India, *Seventh Five Year Plan*, (1985-90), Vol.II, 1985, pp.226-67.

Table 3.3

Determinants of Enrolment

Year	*Enrolment in Primary Education*	*Population in the Age Group of 6-11*	*Per Capita SDP at Current Prices in Rs.*	*No.of Primary Schools per 10,000 Population*	*Proportion of SC and ST Population to Total Population*
	Y	X_1	X_2	X_3	X_4
1	*2*	*3*	*4*	*5*	*6*
1956-57	24,54,054	42,35,800	235.85	8.58	17.668
1957-58	25,66,800	42,67,700	261.41	8.65	17.626
1958-59	26,59,076	42,99,700	275.99	8.76	17.584
1959-60	28,06,451	43,31,700	281.29	9.10	17.542
1960-61	29,76,055	43,59,800	275.20	9.46	17.500
1961-62	34,01,665	44,73,100	319.00	9.95	17.458
1962-63	35,18,366	45,86,500	329.00	9.95	17.416
1963-64	36,04,371	46,99,900	372.15	9.84	17.374
1964-65	35,96,573	48,13,200	394.53	9.57	17.332
1965-66	37,69,174	49,26,700	343.47	9.37	17.290
1966-67	38,59,394	51,13,600	444.73	9.13	17.248
1967-68	38,91,178	53,00,700	579.13	9.00	17.206
1968-69	39,34,790	54,87,800	478.35	8.86	17.164
1969-70	39,03,954	56,74,900	513.45	8.73	17.122
1970-71	38,82,876	58,61,800	583.59	8.63	17.080
1971-72	39,01,556	59,94,000	627.92	8.46	17.452
1972-73	39,91,466	61,26,200	654.11	8.19	17.824
1973-74	40,39,989	62,58,500	839.64	8.04	18.196
1974-75	40,93,703	63,89,100	1002.59	7.88	18.568
1975-76	41,34,454	65,19,800	993.38	7.71	18.940
1976-77	42,73,685	64,82,200	901.20	7.68	19.312
1977-78	46,75,907	64,44,700	908.50	7.74	19.684

Contd...

Contd...

1978-79	49,25,484	64,03,800	1026.64	7.75	20.056
1979-80	50,90,781	62,84,915	1148.30	7.63	20.428
1980-81	53,67,815	63,72,999*	1358.00	7.65	20.800
1981-82	54,66,075	64,55,131	1659.00	7.60	21.172
1982-83	56,65,240	65,94,399	1708.00	7.45	21.544
1983-84	60,73,040	67,33,667	1955.00	7.35	21.916
1984-85	64,11,608	68,77,696	1918.00	7.21	22.288

Note: *Relates to quick estimates from 1980-81.

Sources: Y = *Hand Book of Statistics*, Andhra Pradesh, Hyderabad.
X_1 = *General and Technical Education in Andhra Pradesh*, (Telugu Akademi, Hyderabad.)
X_2 = *Hand Book of Statistics*, Andhra Pradesh, Hyderabad.
X_3 = *Hand Book of Statistics*, Andhra Pradesh, Hyderabad.
X_4 = Estimates based on Census of India for various years.

Notes

1. Quoted by Chalam, K.S., *Finances, Costs and Productivity of Higher Education*, Inter-India Publications, New Delhi, 1986, p.3.
2. Hunter, W.W., *India-Education Commission, 1882, Report of the Indian Education Commission*, Calcutta.
3. Pillai, Ramachandra, *General and Technical Education in Andhra Pradesh*, Telugu Akademi, Hyderabad, 1981, p.18.
4. *Ibid.*, p.20.
5. Even if we make an allowance for the number of primary school students in upper-primary schools, the number is found to be increasing.
6. Pillai, Ramachandra, *op.cit.*, p.61.
7. Kamat, A.R."Efficiency of Education", in Pandit, H.N. (Ed.), *Measurement of Cost Productivity and Efficiency of Education*, NCERT, 1969, pp.123-128.

Chapter 4

Regional and Social Inequalities in the Development of Primary Education

Studies in the area of inequalities have been growing in number, ever since the popularization of the concept of balanced growth. However, studies in the area of economics of education are found to be very few, particularly with reference to the educational background. As far as Andhra Pradesh is concerned, Tilak's study on rural-urban disparities in education is one of the earlier studies.[1] But it was limited to rural urban inequalities in the provision of school education, and literacy in the districts of Andhra Pradesh only. Therefore, an attempt is made here to probe into the various aspects of inequalities in the provision of primary education in Andhra Pradesh. For this, we have considered the districtwise enrolment expressed as a ratio of the population of the district since the absolute numbers do not really indicate the magnitude of the problem, as there are small and big districts. We have also considered the institutions and the student-teacher ratio to find the inequalities. The crude dropout rates at different classes of the primary education in different districts of the state for the year 1982-83, with reference to the caste groups, have also been examined to find out the socio-economic dimensions of inequalities.

The purpose of examining the above mentioned indicators of spread of education is to help understand, and analyze the problem of inequalities in primary education over a period of time, and also across different social groups in the state. The objective of this chapter is, therefore, mainly to focus attention on these aspects, so as to discores out the real indicators of underdevelopment of primary education in some of the backward districts of the state.

Regional Inequalities*

Regional inequalities in terms of the enrolment rates are considered in this section, for the first instance. Later the dropout rates of socio-economic group in each district will be examined. Economists have been using a number of statistical tools to measure these inequalities. As we are concerned with the inequalities between boys and girls between 1961 and 1971, and 1971 and 1981 and so on, we have simply resorted to the calculation of coefficient of variation. This statistical tool has been used in a number of studies relating to inequalities, as it is very simple to calculate, and also easy to interpret. We have considered here the coefficient of variation among the districts, for boys and girls separately, and also for selected years. If the coefficient of variation of boys is more than girls, it is a clear indication of inequalities among boys. Similarly, if the coefficient of variation in the year 1961 is found to be less than that of the year 1971, it is evidence of an increase in the inequalities of education among boys or girls, or regions over a period of time. Further, we have considered three indicators to point out the inequalities. They are: (1) enrolment in primary education in a district expressed as a ratio of 10,000 population of the district, (2) number of primary schools per 10,000 population of the district, (3) number of teachers employed in primary schools in the district, and (4) the student-teacher ratio. The coefficient of variation has been calculated for all these indicators. It is on the basis of the coefficient of variation, that inequalities in the provision of primary education have been analyzed.

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* There are three distinct regions in the state, viz., coastal Andhra consisting of nine districts, Rayalaseema with four districts and Telangana with ten districts.

A summary table consisting of the coefficients of variation, standard deviations for different regions of the state are presented in Tables 4.1, 4.2 and 4.3, while the data relating to each district are provided in the Appendix Tables 4.1, 4.2 and 4.3.

Table 4.1

Measures of Dispersion in Enrolment at Primary Level in Andhra Pradesh

Region	*AM*		*SD*		*CV*	
	Boys	*Girls*	*Boys*	*Girls*	*Boys*	*Girls*
1	*2*	*3*	*4*	*5*	*6*	*7*
1961						
1. Coastal Andhra	1184.57	876.71	269.66	255.54	22.76	29.15
2. Rayalaseema	1140.50	620.00	292.47	170.38	25.64	27.48
3. Telangana	561.22	229.44	53.93	85.97	9.61	37.47
Andhra Pradesh	895.25	534.10	366.12	342.17	40.89	64.06
1971						
1. Coastal Andhra	1122.87	885.75	208.75	208.70	18.54	23.56
2. Rayalaseema	1064.50	659.50	104.16	97.37	9.78	14.76
3. Telangana	481.44	232.67	63.23	64.40	13.13	27.68
Andhra Pradesh	836.86	562.76	343.99	333.10	41.10	59.19
1981						
1. Coastal Andhra	1079.89	872.00	180.91	128.48	16.75	14.73
2. Rayalaseema	1078.00	735.75	55.92	49.87	5.19	6.78
3. Telangana	567.00	328.60	116.44	113.00	20.54	34.39
Andhra Pradesh	856.65	599.00	292.13	289.98	34.10	48.41
1991						
1. Coastal Andhra	1099.22	987.02	136.67	123.55	12.43	12.52
2. Rayalaseema	1254.38	1021.44	63.81	57.52	5.09	5.63
3. Telangana	872.79	566.71	343.30	163.41	39.33	28.83
Andhra Pradesh	1027.76	796.35	283.95	275.28	27.63	34.57

Source: Statistical Abstracts of Andhra Pradesh, for various years.

It may be seen from the Table 4.1 that the coefficient of variation among the boys in 1961 is 40.89, while it is found to be 64.06 among girls at the state level. There are variations in the coefficient between regions. The highest coefficient is found in the Rayalaseema region, and the lowest is in Telangana region, among boys. Among girls, it is quite the opposite. It shows that the inequalities are more pronounced in the case of girls' enrolment in primary education in the year 1961, as compared to boys. In this year, the coefficient of variation among boys is almost the same at the state level, but there is a decline in the coefficient in the case of girls. The regional variations among boys are found to be the highest in coastal Andhra and the lowest is observed in the case of Rayalaseema. There is no change in the relative positions of the coefficient in the case of girls in 1971 as compared to 1961. The coefficient of variation among boys and girls, has substantially declined in 1981, both among girls and boys.

We have also made a comparison between different regions for selected years. It is clear that the coefficient of variation has been declining from 22.76 in 1961 to 18.54 in 1971, and to 16.75 in 1981 among boys in the coastal Andhra. In the Rayalaseema region, the decline in the coefficient is very sharp between 1961 and 1971 (declined from 25.64 to 9.78), and between 1971 and 1981. Interestingly, there is an increase in the coefficient among boys in the Telangana region from 9.61 in 1961, to 13.13 in 1971 to 20.54 in 1981, and to 39.33 in 1991.

In the case of girls, there is a sharp decline in the coefficient among all the regions during the entire period, except in the Telangana region during 1981-1991. This shows the inequalities among the districts in the enrolment of girls that have declined in all regions except in Telangana. It appears that the districts in the Telangana region suffer more from these inequalities, than the remaining two regions of the state.

The inequalities in the provision of institutional facilities have also been studied here. The data are presented in Table 4.2.

Table 4.2
Measures Of Dispersion in Institutions at Primary Level in Andhra Pradesh

S. No.	*Region*	*AM*		*SD*		*CV*	
		Number of Institutions	*Institutions per 10,000 population*	*Number of Institutions*	*Institutions per 10,000 population*	*Number of Institutions*	*Institutions per 10,000 population*
	1	*2*	*3*	*4*	*5*	*6*	*7*
1961							
1.	Coastal Andhra	2438.43	1050.43	585.36	221.80	24.00	21.11
2.	Rayalaseema	1939.25	1131.75	511.49	297.77	26.37	26.31
3.	Telangana	1076.33	775.67	211.39	101.97	19.64	13.15
	Andhra Pradesh	1725.65	9.51	751.55	2.40	43.55	25.24
1971							
1.	Coastal Andhra	2299.50	955.62	327.81	167.91	14.25	17.57
2.	Rayalaseema	2052.25	1044.00	333.49	197.38	16.25	18.91
3.	Telangana	1193.78	701.67	221.49	137.64	18.55	19.62
	Andhra Pradesh	1778.52	8.64	592.74	2.12	33.33	24.54
1981							
1.	Coastal Andhra	2168.44	855.89	271.63	177.94	12.53	20.79
2.	Rayalaseema	2289.75	956.00	498.66	183.88	21.78	19.23
3.	Telangana	1193.60	597.50	393.85	178.27	33.00	29.83
	Andhra Pradesh	1765.70	7.61	623.90	2.28	35.33	29.96
1991							
1.	Coastal Andhra	2523.55	8.36	258.86	2.00	10.26	23.92
2.	Rayalaseema	2811.25	9.71	745.15	2.36	26.51	24.30
3.	Telangana	1624.40	6.46	612.88	2.87	37.73	44.43
	Andhra Pradesh	2182.65	7.77	731.98	2.77	33.54	35.65

Source: Statistical Abstracts of Andhra Pradesh, for various years.

Here we have examined the provision of institutional facilities, not only in terms of their number, but also in relation to the population of the district as the absolute numbers in a big district in terms of the size may be misleading. The data show that there is no uniformity in the rise and fall of the coefficient between these years. It has first declined from 25.24 in 1961, to 24.54 in 1971, and has increased to 29.96 in 1981 and further increased to 35.65 at the state level.

The coefficients of variation for this indicator among the three regions, indicate that the variation is increasing in the Telangana region between 1961 and 1991. The situation in other regions appears to be similar to that of the state average.

We have also made an attempt to see the variations among the regions in terms of the student teacher ratio to understand the quality of education. The data are presented in the Table 4.3. It is found that the coefficient at the state level has increased from 15.72 in 1961, to 19.24 in 1971, and has declined to 16.43 in 1981, and later increased to 20.43 in 1991. But, in the case of coastal Andhra, one can see that it has been constantly increasing from 4.41 in 1961, to 7.83 in 1971, and to 9.42 in 1981, while in the case of Rayalaseema and Telangana it has first declined, and later increased. However, a slight decline is found in the case of coastal Andhra in 1991.

The data presented in the Appendix Tables clearly shows that there are certain districts like Nizamabad and Adilabad, which are found to be the lowest in enrolment in primary education among all the districts in the state. Interestingly, Hyderabad district consisting of the urban segment has also indicated the lowest enrolment among all the districts. This has to be examined with the help of the available data. The data published by the government and other agencies on education, pertain only to the public funded schools. The schools managed by private managements, which are more in number in urban areas like Hyderabad, do not reflect this phenomenon. The reasons for the lowest enrolment in the two Telangana districts can be seen in terms of number of schools per 10,000 population, which is found to be the lowest in the above two districts of

Table 4.3

Measures of Dispersion in Students-Teacher Ratio

S. No.	*Region*	*1961*			*1971*			*1981*			*1991*		
		AM	*SD*	*CV*	*AM*	*SD*	*CV*	*AM*	*SD*	*CV*	*AM*	*SD*	*CV*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*
1.	Coastal Andhra	37.82	1.67	4.41	43.06	3.37	7.83	53.62	5.05	9.42	55.67	3.37	6.05
2.	Rayalaseema	38.26	4.10	10.72	43.21	0.96	2.22	52.99	5.17	9.76	56.85	19.55	34.38
3.	Telangana	28.30	2.25	7.95	29.98	2.98	9.94	41.68	5.98	14.35	45.03	16.73	37.15
4.	Andhra Pradesh	33.85	5.32	15.72	37.48	7.21	19.24	48.32	7.94	16.43	53.21	10.87	20.43

Source: *Statistical Abstracts of Andhra Pradesh*, for various years.

Telangana. However, the student-teacher ratio does not indicate this.

Inequalities in the Dropout Rates Among Social Groups

The problem of dropouts at the primary stage is found to be one of the major factors for the low levels of literacy in the country. Andhra Pradesh is not an exception to this. In fact, Andhra Pradesh is one of the nine educationally backward states in the country. The amount of budgetary resources devoted to this sector in recent years has also been increasing, yet the state remains backward. It is necessary to find out in what communities and districts the dropout rates are more pronounced, so that enough attention can be paid to allocate more resources for these communities in a district, to overcome the problem of dropouts.

The concept of dropout has been used in economics of education, for quite, some time, and has been operationalized to quantify the rates. A number of methods have been used to measure the dropouts. A review of the methods will be made in Chapter 8, where the costs of wastage are estimated. As we are concerned with the dropout rates of various socio-economic groups at the district level, here the data relating to the enrolment of students of various communities for a cohort period is necessary. But data relating to the above are not available on a time series basis. However, we could get the data for the districts for the year 1982-83. It is not possible to estimate the transition ratios with the help of cross-section data. Therefore, we have used the crude method of comparing the enrolment of the first standard, with other standards, assuming that the enrolments in subsequent standards indicate the cohort years. We have estimated the dropout rates for scheduled castes, scheduled tribes, other backward communities, and all combined together for all the 23 districts in the state.[2] The results are presented in the Appendix Tables 4.4, 4.5, 4.6 and 4.7 respectively for all communities, scheduled castes, scheduled tribes, and other backward classes students. The inequalities in the dropout rates are examined here in terms of the ratios of each community in a district at different standards of primary education in the year 1982-83 only.

It is clear from the Appendix Tables that the dropout rates among different communities in various districts of the state are the highest among scheduled tribe girls at the stage of the 5th standard (79.03 per cent), and the lowest is observed in the case of other backward classes girls (17.3 per cent) at the II standard.

In order to find out the districts where the performance is either good or bad, we have worked out a summary table of data relating to the highest and lowest dropout districts, with reference to the socio-economically backward communities in the state. The data are presented in the Tables 4.4, 4.5 and 4.6 respectively for dropout rates at II standard, III standard and V standard in the year 1982-83. In Table 4.4 we can see that Medak district has emerged as the most backward district in terms of the district dropout rates at II standard, in all the communities, both among girls and boys except scheduled tribe boys and backward classes girls, where Rangareddy district has occupied that dubious top position. Both these districts are in the Telangana region. The districts of Karimnagar, Cuddapah and Guntur have emerged as the best districts, in terms of lowest dropout rates at this stage. The good performance of Karimnagar, both among scheduled castes and backward classes, can be seen from Table 4.4.

The performance of the districts at the III standard can be seen from Table 4.5. Medak, Nizamabad and Rangareddy districts have the highest dropout rates. The lowest dropout districts at this stage are found to be Karimnagar, East Godavari, Khammam and Hyderabad. East Godavari in the tribal category, and Karimnagar in all communities, are found to be the best districts.

Table 4.4

Crude Dropout Rates at Class II

S.No.	*Category*	*Highest in the State*			*Lowest in the State*		
		Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*
1.	All Communities	Medak	Medak	Medak	Cuddapah	Karimnagar	Karimnagar
2.	Scheduled Castes	Medak	Medak	Medak	Karimnagar	Karimnagar	Karimnagar
3.	Scheduled Tribes	Rangareddy	Medak	Rangareddy	Guntur	Cuddapah	Cuddapah
4.	Backward Classes	Medak	Rangareddy	Rangareddy	Karimnagar	Karimnagar	Karimnagar

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

Table 4.5

Crude Dropout Rates at Class III

S.No.	*Category*	*Highest in the State*			*Lowest in the State*		
		Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*
1.	All Communities	Rangareddy	Nizamabad	Medak	Karimnagar	Karimnagar	Karimnagar
2.	Scheduled Castes	Nizamabad	Nizamabad	Nizamabad	Karimnagar	Hyderabad	Karimnagar
3.	Scheduled Tribes	Rangareddy	Medak	Medak	East Godavari	Karimnagar	Karimnagar
4.	Backward Classes	Nizamabad	Rangareddy	Rangareddy	Karimnagar	Karimnagar	Karimnagar

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

The performance of the districts at the terminal year of primary education, V standard is given in Table 4.6. It is found that Nizamabad, Medak and Rangareddy districts are the sufferers.

The lowest dropout rates are found in the districts of Karimnagar, Guntur, West Godavari and Nalgonda.

Table 4.6

Crude Dropout Rates at Class V

S.No.	*Category*	*Highest in the State*			*Lowest in the State*		
		Boys	*Girls*	*Total*	*Boys*	*Girls*	*Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*
1.	All Communities	Nizamabad	Nizamabad	Nizamabad	Karimnagar	Karimnagar	Karimnagar
2.	Scheduled Castes	Nizamabad	Nizamabad	Nizamabad	Nalgonda	Vizianagaram	Karimnagar
3.	Scheduled Tribes	Rangareddy	Medak	Rangareddy	Guntur	Karimnagar	Guntur
4.	Backward Classes	Nizamabad	Nizamabad	Nizamabad	West Godavari	Krishna	West Godavari

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

The overall performance of the districts in terms of their presence, either in the lowest dropout rate or the highest dropout rate in various communities, has also been worked out. Out of the 36 cells in each of the lowest and highest dropout rates, the scores obtained by the districts are worked out as follows: the highest dropout districts are Nizamabad (14), Medak (12) and Rangareddy (10). Lowest dropout districts are Karimnagar (23), Guntur (3), Cuddapah (3), West Godavari (2), East Godavari (1), Krishna (1), Nalgonda (1), Vizianagaram (1) and Hyderabad (1).

This crude method in terms of the cell scores indicate that the performance of Nizamabad district with highest score is the district with high dropout rates among all communities, followed by Medak and Rangareddy. The best performance in terms of lowest dropout rates is found in the case of Karimnagar, followed by Guntur and Cuddapah districts. It is interesting that both the best and the worst performance districts in the spread of primary education, are found in Karimnagar and Medak in the Telangana region.

High Rates of Dropouts Among Weaker Sections

We have estimated the dropout rates among weaker sections of the society such as scheduled castes, scheduled tribes and backward classes in each district of the state for the year 1982-83. As the data are obtained from the records of the Director of School Education, it has not been possible to obtain a time series data to estimate the dropout rates on the basis of the apparent cohort method. However, we have used the same method with the cross-section data by assuming that enrolment in class I as a cohort. We know the weakness of this method. But, given the data limitations, we wanted to indicate the rates of dropout among the weaker sections, as these rates really hold the key in solving the problem of low rates of enrolment in a state like Andhra Pradesh. The data presented in the previous sections have given us some interesting rates in some districts where the enrolment in class II are found to be more than in Class I. This is due to the fresh enrolments in class II, or subsequent grades, during the year of the study 1982-83. This may be kept in mind while reading the results. The detailed figures are presented in the Appendix tables for scheduled castes, scheduled tribes, backward classes and all students combined together.

It is found that the dropout rates among the scheduled tribes is higher than all other groups at the primary stage (80.24 per cent). It is interesting to see that the dropout rates have followed a gradation, which is akin to our social gradation. That is, the highest dropout rate is found among scheduled tribes followed by scheduled castes, and backward classes in Andhra Pradesh. The dropout rates among all these groups are found to be more in the Telangana districts as compared to the state average. The highest rate is observed in Rangareddy district among scheduled tribes, where the rate is estimated at 98.38 per cent between I and V grades. Another interesting point that is revealed in this data is, that the dropout rate between I and II grades is lower than between I and III grades. Quite contrary to the general belief, the rate is found to be the highest between grades I and III. Therefore, the analysis suggests that the state has to take necessary steps to promote the educational upliftment of these groups, by taking into consideration the above factors which have been responsible for the low retention rates in Andhra Pradesh.

Conclusion

The analysis of the inequalities in the development of primary education in the various social groups in the 23 districts of Andhra Pradesh has brought out the fact that there is a decline in the inequalities in the state over a period of time. However, the decline in the inequalities among communities and regions is more sharp in the case of developed coastal Andhra region, than in Telangana. Interestingly, the inequalities among boys have increased in Telangana region. The variation is also found to be sharp in the development of educational institutions in this region. A further probe into the unequal development of primary education in the state reveals that the performance of the Karimnagar district is remarkable. It is because of the fact that the dropout rates among scheduled castes and other backward communities in this district are the lowest at I and III standards. However, its performance at the V standard do not seem to be encouraging. This study shows that in order to achieve universalisation of primary education in Andhra Pradesh, it is necessary to identify not only the backward districts, but also the social groups where the dropout rates are highest. This will help to devise a strategy to overcome this problem, which naturally follow the regional, social and other specific conditions of the district.

APPENDIX

Table 4.1

Enrolment of Students in Primary Schools Per 10,000 Population

S.No.	District	1961		1971		1981		1991	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1	2	3	4	5	6	7	8	9	10
1.	Srikakulam	662.81	383.76	1052.58	738.10	1172.12	861.30	1134.70	946.40
2.	Vizianagaram	-	-	-	-	1252.64	923.60	1379.71	1031.54
3.	Visakhapatnam	1536.68	839.93	819.84	523.48	903.91	595.52	1019.73	801.60
4.	East Godavari	1122.66	902.26	920.16	839.86	869.61	805.94	969.70	936.75
5.	West Godavari	1236.35	1154.12	1170.30	1070.88	1044.36	1020.99	1052.23	1102.56
6.	Krishna	1160.78	1007.77	1067.99	955.28	892.50	812.42	1043.07	940.76
7.	Guntur	1365.17	1080.22	1464.55	1204.20	1065.80	921.32	898.78	827.26
8.	Prakasam	-	-	1330.09	944.05	1413.21	1010.72	1208.01	1192.30
9.	Nellore	1207.32	769.04	1157.96	810.68	1105.56	896.74	1187.04	1104.01
	Coastal Andhra	1190.22	877.19	1110.63	883.22	1052.99	868.02	1068.93	954.16
10.	Kurnool	1456.88	786.28	1021.26	632.00	1107.44	778.37	1305.49	969.45
11.	Anantapur	784.23	402.07	1037.20	615.41	1074.78	667.67	1329.72	1019.33

Cont.

Cont.

12.	Cuddapah	1280.49	719.30	1216.88	803.30	1129.22	768.42	1191.35	1081.55
13.	Chittoor	1041.39	572.75	983.01	588.57	1001.67	729.11	1190.95	1055.45
	Rayalaseema	1135.01	617.26	1053.31	649.07	1073.15	733.20	1258.20	1028.88
14.	Hyderabad	617.25	406.89	420.81	320.44	332.71	313.50	268.44	267.29
15.	Rangareddy	-	-	-	-	538.47	183.77	798.55	559.05
16.	Medak	,542.75	173.96	510.49	197.18	713.75	327.91	740.74	436.19
17.	Nizamabad	492.16	159.02	407.74	150.67	428.31	176.72	703.17	496.55
18.	Mahbubnagar	555.98	201.92	471.24	231.87	590.79	274.71	1003.07	621.14
19.	Nalgonda	530.73	236.20	615.53	313.04	665.97	413.64	1020.59	640.15
20.	Warangal	664.47	260.30	525.70	257.87	618.33	317.11	1160.31	590.09
21.	Khammam	583.49	314.54	446.75	282.88	624.27	429.50	739.72	601.36
22.	Karimnagar	559.29	160.72	485.08	177.86	512.44	251.41	660.68	511.47
23.	Adilabad	505.94	152.46	449.94	162.30	646.53	297.79	1632.67	943.82
	Telangana	568.65	239.80	481.56	241.44	564.43	301.19	854.94	557.93
	Andhra Pradesh	959.23	603.17	870.38	608.40	872.11	630.87	1018.41	812.19
	Standard Deviation	366.12	342.17	343.99	333.10	292.13	289.98	283.95	275.28
	Mean	895.25	534.10	836.86	562.76	856.65	599.00	1027.76	796.35
	Coefficient of Variation	40.89	64.06	41.10	59.19	34.10	48.41	27.63	34.57

Source: *Statistical Abstracts of Andhra Pradesh*, for various years.

Table 4.2

Institutions Per 10,000 Population

S.No.	District	1961		1971		1981		1991	
		No.of Institutions	Institutions per 10,000 population	No.of Institutions	Institutions per 10,000 population	No. of Institutions	Institutions per 10,000 population	No. of Institutions	Institutions per 10,000 population.
1	2	3	4	5	6	7	8	9	10
1.	Srikakulam	1612	6.89	2902	11.20	2159	11.02	2531	10.93
2.	Vizianagaram	-	-	-	-	1675	9.28	2116	10.05
3.	Visakhapatnam	3237	14.13	2162	7.71	1790	6.95	2339	7.14
4.	East Godavari	2360	9.05	2384	7.72	2460	6.65	3031	6.67
5.	West Godavari	2155	10.89	2094	8.82	2190	7.62	2341	6.65
6.	Krishna	2171	10.45	2121	8.50	2231	7.32	2341	6.33
7.	Guntur	3192	10.60	2637	9.27	2469	7.19	2652	6.46
8.	Prakasam	-	-	2204	11.48	2308	9.91	2600	9.44
9.	Nellore	2342	11.52	1892	11.75	2234	11.09	2761	11.55
	Coastal Andhra	17069	10.45	18396	9.33	19516	8.22	22712	7.91
10.	Kurnool	2522	13.21	1602	8.08	1713	7.11	1866	6.29

Cont.

Cont.

11.	Cuddaph	1865	13.90	2036	12.91	2174	11.24	2645	11.68
12.	Anantapur	1291	7.30	2181	10.31	2353	9.23	2783	8.75
13.	Chittoor	2079	10.86	2390	10.46	2919	10.66	3951	12.13
	Rayalaseema	7757	11.19	8209	10.31	9159	9.51	11245	9.64
14.	Hyderabad	1129	5.96	1216	4.35	392	1.736	517	1.67
15.	Rangareddy	-	-	-	-	920	5.81	1260	4.97
16.	Medak	1042	8.49	1204	8.20	1307	7.23	1490	6.59
17.	Nizamabad	729	7.13	785	5.98	771	4.59	949	4.66
18.	Mahbubnagar	1414	8.89	1554	8.04	1674	6.85	2015	6.55
19.	Nalgonda	1160	7.36	1445	7.94	1614	7.08	1894	6.65
20.	Warangal	1162	7.52	1194	6.38	1398	6.08	2133	7.58
21.	Khammam	976	9.23	1049	7.66	1200	6.85	1605	7.24
22.	Karimnagar	1158	7.14	1207	6.14	1348	5.53	1559	5.14
23.	Adilabad	817	8.09	1090	8.46	1312	8.00	2822	13.57
	Telangana	9687	7.62	10744	6.79	11936	5.91	16244	6.25
	Andhra Pradesh	34513	9.59	37349	8.58	40611	7.58	50201	7.56
	Standard Deviation	751.55	2.40	592.74	2.12	623.90	2.28	731.98	2.77
	Mean	1725.65	9.51	1778.52	8.64	1765.70	7.61	2182.65	7.77
	Coefficient of Variation	43.55	25.24	33.33	24.54	35.33	29.96	33.54	35.65

Source: *Statistical Abstracts of Andhra Pradesh*, for various years.

Table 4.3

Number of Teachers and Student-Teacher Ratio

	District	*1961*				*1971*				*1981*				*1991*			
		Teachers				*Teachers*				*Teachers*				*Teachers*			
		Men	*Women*	*Total*	*St.Tr. Ratio*	*Men*	*Women*	*Total*	*St.Tr. Ratio*	*Men*	*Women*	*Total*	*St.Tr. Ratio*	*Men*	*Women*	*Total*	*St.Tr. Ratio*
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	Srikakulam	3166	219	3385	36.01	5485	416	5901	39.21	3485	369	3854	51.60	4070	568	4638	51.92
2.	Vizianagaram	-	-	-	-	-	-	-	-	2789	315	3104	63.22	3702	770	4472	56.73
3.	Visakhapatnam	6153	812	6965	39.01	3469	716	4185	45.04	2323	1050	3373	57.38	3208	1533	4741	63.05
4.	East Godavari	5216	1246	6462	40.87	4750	2400	7150	38.00	4080	1807	5887	52.68	4867	2644	7511	57.65
5.	West Godavari	4884	1573	6457	36.62	4006	1606	5612	47.42	3795	2277	6072	48.88	3922	2936	6858	55.28
6.	Krishna	4149	1809	5958	37.85	3686	1863	5549	45.51	2896	2372	5268	49.36	3035	3467	6502	56.43
7.	Guntur	7269	2750	10019	36.78	6177	2857	9034	42.07	4293	2858	7151	47.77	3636	2961	6597	53.70
8.	Prakasam	-	-	-	-	4069	1194	5263	41.53	3914	1334	5248	53.90	3962	1512	5474	55.50
9.	Nellore	4196	1153	5349	37.58	2573	899	3472	45.69	2427	1065	3492	57.83	3579	1817	5396	50.75
	Coastal Andhra	35033	9562	44595	37.89	34215	11951	46166	42.62	30002	13447	43449	52.52	339.81	18208	52189	55.65
10.	Kurnool	4457	1289	5746	37.38	2803	936	3739	43.98	2638	1236	3874	58.79	3074	1942	5016	67.53
11.	Anantapur	2002	388	2390	44.26	3259	743	4002	43.98	3184	1101	4285	52.14	3237	1270	4507	83.16

Cont.

Cont.

12. Cuddapah	3285	547	3832	35.23	3239	571	3810	42.00	3068	900	3968	46.41	6165	1416	7581	33.98
13. Chittoor	3606	695	4301	36.16	3421	787	4208	42.90	3255	1095	4350	54.61	5950	2616	8566	42.74
Rayalaseema	13350	2919	16269	37.56	12722	3037	15759	43.21	12145	4332	16477	52.97	18426	7244	25670	52.09
14. Hyderabad	2283	956	3239	32.78	1864	1287	3151	32.98	720	1596	2316	31.58	699	1823	2522	32.84
15. Rangareddy	-	-	-	-	-	-	-	-	1282	451	2217	33.33	2186	1780	3966	43.65
16. Medak	1431	125	1556	28.29	1835	107	1942	26.83	2068	149	2217	42.60	2504	423	2927	45.63
17. Nizamabad	1162	141	1303	25.49	1148	125	1273	28.81	1111	146	1257	40.32	1717	510	2227	54.75
18. Mahbubnagar	2139	194	2333	25.82	2208	268	2476	27.49	2477	315	2792	38.01	3665	861	4526	55.34
19. Nalgonda	1917	146	2063	29.56	2551	276	2827	30.06	2685	285	2970	41.58	3885	839	4724	50.27
20. Warangal	1996	274	2270	31.80	1908	279	2187	33.78	1991	313	2304	46.97	3141	822	3963	62.52
21. Khammam	1409	154	1563	30.57	1325	220	1545	32.51	1519	359	1878	49.34	2562	950	3512	42.38
22. Karimnagar	1998	85	2083	28.06	1918	132	2050	31.87	1853	135	1988	46.85	3151	884	4035	44.04
23. Adilabad	1179	68	1247	26.78	1478	79	1557	25.47	1608	71	1679	46.27	3608	591	4199	63.96
Telangana	15514	2143	17657	29.25	16235	2773	19008	30.24	17314	3820	21134	41.51	27118	9483	36601	50.34
Andhra Pradesh	63897	14624	78521	35.88	63172	17761	80933	39.83	59461	21599	81060	49.74	79525	34935	114460	53.15
Standard Deviation				5.32				7.21				7.94				10.87
Mean				35.85				37.48				48.32				53.21
Coefficient of Variation				15.72				19.24				16.43				20.43

Source: Statistical Abstracts of Andhra Pradesh, for various years.

Table 4.4

Crude Dropout Rates at Different Years of Schooling in Andhra Pradesh in 1982-83 in Percentage (All Communities)

S.No.	District	Ratio between Classes I and II			Ratio between Classes I and III			Ratio between classes I and V		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10	11
1.	Srikakulam	25.76	30.68	28.02	45.41	52.70	48.77	65.82	75.22	70.15
2.	Vizianagaram	38.50	40.74	39.53	53.24	56.94	54.94	67.08	73.97	70.24
3.	Visakhapatnam	31.85	25.13	29.05	43.92	46.95	45.18	63.53	73.30	67.60
4.	East Godavari	35.19	37.12	35.58	50.30	52.65	51.44	69.17	70.31	69.72
5.	West Godavari	31.21	25.32	28.45	50.39	48.27	49.39	65.83	63.13	64.55
6.	Krishna	22.19	21.43	21.83	35.92	35.90	35.91	51.92	51.49	51.72
7.	Guntur	23.50	35.73	29.25	42.82	52.98	47.60	60.39	68.16	64.04
8.	Prakasam	21.91	26.25	23.86	34.82	43.21	38.59	54.66	65.70	59.62
9.	Nellore	29.30	33.44	31.20	44.60	51.66	47.83	64.56	68.58	66.40
	Coastal Andhra	29.10	31.07	30.01	44.95	49.27	46.95	62.79	67.59	65.01
10.	Kurnool	22.57	29.50	25.53	38.00	45.39	41.16	56.39	69.06	61.81
11.	Anantapur	32.04	43.48	36.82	49.27	59.60	53.59	65.03	74.94	69.17
12.	Cuddapah	9.30	25.77	16.99	18.86	49.08	32.97	53.84	65.74	54.50
13.	Chittoor	32.03	40.62	35.99	44.02	54.66	48.93	59.22	71.37	64.82

Cont.

Cont.

	Rayalaseema	25.42	35.62	29.93	39.37	52.53	45.18	57.50	70.59	63.28
14.	Hyderabad	42.57	30.02	36.74	47.67	37.09	42.76	65.50	53.95	60.14
15.	Rangareddy	47.16	26.85	40.00	80.08	56.81	72.32	81.57	80.95	81.36
16.	Medak	61.37	65.87	62.90	73.29	79.15	75.28	82.98	89.42	85.17
17.	Nizamabad	59.50	65.04	61.37	71.17	79.24	73.89	88.11	91.58	89.28
18.	Mahbubnagar	59.78	62.03	60.55	71.61	75.47	72.94	77.35	85.57	80.18
19.	Nalgonda	49.22	57.11	52.33	63.90	70.76	66.60	72.63	79.46	75.32
20.	Warangal	60.96	62.99	61.69	68.97	72.22	70.15	78.34	84.95	80.81
21.	Khammam	52.93	51.70	52.44	70.05	56.04	64.55	86.93	89.10	87.78
22.	Karimnagar	11.18	10.18	6.82	12.82	7.99	7.21	18.07	12.53	12.47
23.	Adilabad	52.34	53.44	52.67	68.76	72.22	69.81	86.38	82.78	85.38
	Telangana	52.33	52.36	52.34	65.80	64.31	65.26	76.46	79.04	77.40
	Andhra Pradesh	35.53	36.96	36.15	50.26	53.44	51.63	65.94	70.88	68.07

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

Table 4.5

Crude Dropout Rates of Scheduled Caste Students at Different Years of Schooling in Andhra Pradesh in 1982-83

S.No.	District.	Ratio between Classes I and II			Ratio between Classes I and III			Ratio between Classes I and V		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10	11
1.	Srikakulam	30.66	23.08	27.26	65.53	60.92	63.46	79.64	80.45	79.91
2.	Vizianagaram	20.21	28.37	24.04	38.81	45.99	41.65	59.48	52.66	56.28
3.	Visakhapatnam	26.80	35.44	31.04	51.06	56.31	53.63	71.95	80.14	75.97
4.	East Godavari	42.46	13.55	42.99	52.48	54.43	53.47	75.06	79.68	77.31
5.	West Godavari	29.17	31.36	30.21	43.00	47.16	45.06	71.45	72.69	72.04
6.	Krishna	27.38	27.38	27.38	29.74	42.42	41.02	58.66	71.65	64.87
7.	Guntur	32.74	31.05	31.98	53.24	54.06	53.61	65.17	68.78	66.77
8.	Prakasam	71.17	24.84	28.30	42.17	43.72	42.87	63.95	72.58	67.85
9.	Nellore	26.98	34.55	30.53	46.14	51.32	48.57	67.22	73.18	70.01
	Coastal Andhra	30.96	31.85	31.37	47.25	49.82	48.46	67.50	73.03	70.05
10.	Kurnool	38.49	41.91	40.07	53.22	63.90	58.15	80.83	83.75	82.18
11.	Anantapur	31.67	55.39	42.26	55.20	69.78	61.70	72.05	85.13	77.89
12.	Cuddapah	28.24	35.00	31.08	37.74	51.92	43.71	54.72	74.75	63.15
13.	Chittoor	35.87	47.43	41.43	43.35	59.75	51.23	61.60	79.47	70.19

Cont

Cont.

	Rayalaseema	35.85	45.69	39.25	47.33	61.64	53.85	67.15	80.95	73.44
14.	Hyderabad	27.27	20.46	24.12	39.57	38.74	39.18	57.64	57.84	57.73
15.	Rangareddy	46.87	32.93	42.09	73.00	77.07	74.39	85.52	88.21	86.37
16.	Medak	66.57	73.24	69.12	76.70	72.72	75.18	85.88	95.29	89.47
17.	Nizamabad	63.22	66.71	64.40	77.25	84.28	79.62	91.64	96.48	93.27
18.	Mahbubnagar	66.53	72.57	68.57	76.65	79.31	77.55	87.14	80.83	85.01
19.	Nalgonda	52.76	60.24	55.48	64.18	76.33	68.61	21.16	86.27	81.54
20.	Warangal	57.22	61.01	58.67	67.10	72.94	69.33	78.13	84.87	80.70
21.	Khammam	63.57	60.30	62.28	74.75	80.16	76.89	90.83	87.50	89.52
22.	Karimnagar	3.04	0.29	2.26	35.71	-	18.70	37.19	60.60	43.86
23.	Adilabad	48.06	65.68	53.98	63.55	78.17	68.46	82.03	90.34	84.82
	Telangana	53.32	56.29	54.40	67.42	69.05	68.02	79.85	85.55	81.49
	Andhra Pradesh	38.62	40.23	39.33	53.82	56.60	54.98	71.39	77.13	73.91

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

Table 4.6

Crude Dropout Rates of Scheduled Tribes Students at Different Years of Schooling in Andhra Pradesh in 1982-83

S.No.	District.	Ratio between Classes I and II			Ratio between Classes I and III			Ratio between Classes I and V		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10	11
1.	Srikakulam	44.40	48.96	46.36	62.96	59.83	61.61	72.26	78.17	74.80
2.	Vizianagaram	42.65	28.77	37.07	53.51	45.00	50.09	68.42	66.94	67.83
3.	Visakhapatnam	32.19	48.48	38.27	47.25	65.39	54.02	77.89	82.82	79.73
4.	East Godavari	-	-	-	16.83	-	-	81.19	91.38	84.91
5.	West Godavari	34.20	31.19	32.74	46.34	46.78	46.55	76.12	75.68	75.91
6.	Krishna	34.85	37.69	36.03	52.60	61.61	56.34	72.88	90.94	80.37
7.	Guntur	6.83	29.30	16.73	19.79	27.45	23.17	51.24	58.63	54.50
8.	Prakasam	20.62	15.69	-	38.23	51.89	44.64	65.75	79.05	71.99
9.	Nellore	37.19	37.69	-	52.66	57.59	55.50	69.41	77.03	73.30
	Coastal Andhra	9.24	13.49	11.05	46.88	52.00	49.06	69.76	75.35	72.14
10.	Kurnool	36.66	27.96	35.25	48.29	49.39	48.72	65.51	75.61	69.46
11.	Anantapur	27.38	37.51	31.58	40.58	62.03	49.47	59.15	79.20	67.46
12.	Cuddapah	11.74	14.04	12.71	39.14	52.77	44.87	60.08	79.62	68.29
13.	Chittoor	49.11	54.63	51.45	59.26	68.35	62.57	75.42	85.13	79.54

Cont.

Cont.

	Rayalaseema	34.21	37.52	35.58	48.28	59.99	53.12	66.11	80.53	72.07
14.	Hyderabad	12.06	-	-	53.77	50.79	52.62	66.58	76.19	70.31
15.	Rangareddy	83.59	45.23	75.18	82.21	52.00	75.26	98.45	98.15	98.38
16.	Medak	68.49	80.23	72.11	81.25	93.03	88.79	90.91	99.24	93.48
17.	Nizamabad	70.22	72.24	70.74	82.13	88.43	41.88	94.49	97.30	95.22
18.	Mahbubnagar	71.73	66.30	70.33	73.95	78.37	75.09	89.53	89.10	89.42
19.	Nalgonda	60.78	70.24	63.32	74.99	84.12	77.45	87.06	93.06	88.67
20.	Warangal	67.68	72.22	69.16	77.29	82.15	78.87	88.90	88.14	88.65
21.	Khammam	-	18.12	29.78	75.53	81.86	77.36	86.63	92.64	88.94
22.	Karimnagar	20.77	-	13.02	-	24.04	1.10	70.92	55.77	67.44
23.	Adilabad	36.10	26.63	33.42	74.93	68.25	73.04	91.16	86.80	89.93
	Telangana	52.47	40.81	48.73	74.24	79.38	75.89	88.49	90.97	89.29
	Andhra Pradesh	33.86	27.26	31.39	61.07	63.97	62.16	79.03	82.25	80.24

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

Table 4.7

Crude Dropout Rates of Backward Class Students at Different Years of Schooling in Andhra Pradesh in 1982-83

S.No.	District.	Ratio between Classes I and II			Ratio between Classes I and III			Ratio between Classes I and V		
		Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1	2	3	4	5	6	7	8	9	10	11
1.	Srikakulam	26.36	33.20	29.56	40.22	53.68	46.51	61.38	75.94	68.19
2.	Vizianagaram	20.56	22.59	21.55	43.77	47.76	45.72	65.99	77.47	71.60
3.	Visakhapatnam	16.15	33.06	23.26	48.51	51.96	49.96	67.70	74.67	70.63
4.	East Godavari	-	-	-	-	-	-	-	-	-
5.	West Godavari	39.66	18.70	29.78	47.70	36.67	42.50	51.02	64.30	57.28
6.	Krishna	25.55	29.24	27.22	42.26	43.66	42.90	60.64	55.91	58.51
7.	Guntur	31.18	36.02	33.33	50.09	62.16	55.46	68.78	75.71	71.84
8.	Prakasam	26.37	27.75	26.95	42.21	42.30	42.25	63.84	66.06	64.77
9.	Nellore	19.70	28.28	23.64	35.54	42.95	38.95	64.43	64.37	66.40
	Coastal Andhra	-	-	-	41.61	46.16	43.70	62.76	70.77	66.44
10.	Kurnool	24.64	24.01	24.41	42.22	44.53	43.07	61.84	69.22	64.54
11.	Anantapur	36.54	40.68	38.03	51.16	55.95	52.88	69.52	75.00	71.49
12.	Cuddapah	26.77	31.70	28.81	34.78	47.46	40.04	57.21	67.42	61.45
13.	Chittoor	31.80	38.36	34.68	44.96	56.53	50.04	62.22	73.73	67.27

Cont.

Cont.

	Rayalaseema	29.94	33.77	31.45	43.92	51.50	46.91	63.06	71.61	66.43
14.	Hyderabad	41.11	41.59	41.35	46.84	49.77	48.29	61.06	64.81	62.92
15.	Rangareddy	68.88	72.34	70.66	67.67	88.35	78.29	79.34	89.73	84.69
16.	Medak	70.00	44.93	54.73	67.67	67.59	67.65	80.94	82.33	81.28
17.	Nizamabad	66.78	59.68	64.75	75.04	78.31	75.98	91.37	92.95	91.82
18.	Mahbubnagar	60.96	45.70	56.27	73.63	74.86	74.01	82.20	86.20	83.43
19.	Nalgonda	52.25	57.95	54.31	64.82	79.20	66.41	76.55	79.17	77.49
20.	Warangal	56.47	57.59	56.85	66.26	70.98	67.86	77.58	83.61	79.62
21.	Khammam	38.83	45.47	41.34	71.04	54.55	64.78	83.65	85.82	84.47
22.	Karimnagar	5.10	4.36	4.84	1.49	7.39	3.55	-	-	-
23.	Adilabad	51.17	31.25	46.60	58.89	69.25	62.59	80.30	84.16	81.68
	Telangana	52.39	50.56	51.74	62.62	66.57	64.03	73.46	77.80	75.00
	Andhra pradesh	20.85	17.32	19.39	49.45	52.88	50.87	66.55	72.88	69.16

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

Notes

1. Tilak, J.B.G., "Urban Bias and Rural Neglect in Education: A study on Rural-Urban Disparities in Education in Andhra Pradesh", *Margin,* October 1984, pp.61-86.
2. Out of the three methods of (1) apparent cohort, (2) reconstructed cohort, and (3) true cohort, we have used here, the apparent cohort method with cross-section data. See more details in Chapter 8.

Chapter 5

The Structure of Expenditure on Primary Education

The profile of the school system provided in chapter III indicates that the size of primary education in Andhra Pradesh has increased manifold during the period of the study. This also shows the state's commitment towards provision of primary education because elementary education that includes primary education is guaranteed to every citizen under the Indian Constitution. Therefore, the entire system of primary education is to be financed by the government. It has also been established in Chapter 4 that the growth of primary education is not uniform among districts and social groups. The financial implications of all these need to be studied, as there are many sources to finance primary education. Further, this expenditure is used for different purposes such as salaries of teachers, salaries of non-teaching staff, equipment, etc. The structure of expenditure on primary education thus should take into account all the above issues in explaining the changes over a period of time.

The purpose of this chapter is thus limited in examining the structure of expenditure on primary education in Andhra Pradesh, and also to mark out the various sources through which the finances for primary education are augmented. It is also proposed to examine how much of the resources marked for the education sector and also the State domestic product are used for primary education in Andhra Pradesh.

Different Sources of Data on Expenditure on Primary Education

A number of studies on the financing of education in India have been undertaken on the basis of the data supplied by the budget accounts on education issued either by the Department of Education or the Department of Economic Affairs. But there are certain problems in the data on education as supplied by these sources, because, the expenditure on education is met by a number of sources other than the government, while the Department of Education collects and publishes the sources of recognized institutions only. Therefore, these sources do not account for the expenditure made by private endowments, foreign aid, local funds, and other such sources. The Department of Education is, however, collecting data relating to the various aspects of education including expenditure. These data are presented in their publication, *Education in India*. This is a comprehensive source which takes into consideration the expenditure made by different sources. In this chapter, the data provided by the Directorate of School Education which supplies the same to the *Education in India* has been used. In order to examine the dominant position of the state in the financing of primary education and its various dimensions, the budget data are also analyzed in the next chapter. The structure of expenditure consisting of the sources of finances and the items of expenditure are analyzed in the first instance, and other dimensions of the expenditure on primary education are provided thereafter in this chapter.

Expenditure on Primary Education by Items

The items of expenditure on primary education for the state are presented in Table 5.1. The items are broadly divided into (a) salaries of teachers, (b) salaries of non-teaching staff, (c) equipment and other appliances, and (d) others. These items constitute direct expenditure on education. The annual compound growth rates for the items in current prices are also presented in Table 5.1. The method of estimation of the growth rates has already been indicated in Chapter 1.

Table 5.1

Direct Expenditure on Primary Education by Items (Recurring)

(Rs. in lakhs)

Year	*Salaries of Teaching Staff*	*Salaries of Non-teaching Staff*	*Equipment and other Appliances*	*Others*	*Total*	*Salaries of Teachers in Constant Prices*	*Total Expenditure in Constant Prices*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1964-65	847.78 (95.03)	20.60 (2.31)	4.01 (0.45)	19.75 (2.21)	892.15 (100.00)	693.20	729.48
1965-66	1085.62 (91.58)	69.23 (5.84)	9.07 (0.76)	21.49 (1.82)	1185.42 (100.00)	824.94	900.78
1966-67	1151.31 (95.16)	30.01 (2.48)	1.42 (0.12)	27.11 (2.24)	1209.87 (100.00)	768.05	807.12
1967-68	1339.83 (95.89)	27.59 (1.97)	1.61 (0.12)	28.27 (2.02)	1397.32 (100.00)	800.85	835.22
1968-69	1394.92 (95.30)	30.36 (2.07)	1.98 (0.14)	36.38 (2.49)	1463.66 (100.00)	843.36	884.92
1969-70	1569.02 (93.43)	64.48 (3.84)	2.61 (0.15)	43.31 (2.58)	1679.42 (100.00)	914.35	978.68
1970-71	1743.12 (91.98)	98.60 (5.20)	3.21 (0.17)	50.23 (2.65)	1895.18 (100.00)	962.52	1046.48
1971-72	1933.41 (94.85)	34.66 (1.70)	4.09 (0.20)	66.22 (3.25)	2038.40 (100.00)	1026.23	1081.98
1972-73	1824.88 (94.41)	38.34 (1.98)	2.72 (0.14)	66.98 (3.47)	1932.94 (100.00)	881.16	933.34
1973-74	2157.27 (94.87)	40.11 (1.76)	2.84 (0.13)	73.67 (3.24)	2273.89 (100.00)	848.65	894.53
1974-75	2489.67 (95.20)	41.89 (1.60)	2.96 (0.12)	80.37 (3.08)	2615.27 (100.00)	795.42	835.55
1975-76	3300.91 (95.05)	47.56 (1.37)	19.20 (0.56)	104.60 (3.02)	3472.99 (100.00)	1053.59	1108.52
1976-77	3803.25 (94.56)	84.48 (2.10)	71.55 (1.78)	62.73 (1.56)	4022.01 (100.00)	1189.26	1257.60
1977-78	4260.15 (94.70)	89.89 (2.00)	90.25 (2.01)	58.08 (1.29)	4498.37 (100.00)	1266.02	1336.81

Contd...

Contd...

1978-79	4656.63 (94.30)	111.95 (2.27)	107.88 (2.18)	61.66 (1.25)	4938.12 (100.00)	1358.29	1440.40
1979-80	5053.12 (93.96)	134.02 (2.50)	125.52 (2.33)	65.25 (1.21)	5377.91 (100.00)	1445.36	1538.26
1980-81	6075.60 (95.52)	129.35 (2.03)	95.43 (1.50)	60.18 (0.95)	6360.56 (100.00)	1704.76	1784.72
1981-82	7098.07 (96.66)	124.68 (1.70)	65.35 (0.89)	55.12 (0.75)	7343.22 (100.00)	1954.48	2021.98
1989-90	21051.27 (94.67)	693.31 (3.12)	268.31 (1.21)	222.49 (1.00)	22235.38 (100.00)	11167.78	11795.95
Growth Rates							
1964-65 to 1981-82	8.37	6.05	16.30	2.79	8.23		
1964-65 to 1968-69	1.64	1.47	0.49	1.84	1.64		
1969-70 to 1973-74	1.37	0.62	1.09	1.70	1.35		
1974-75 to 1981-82	2.85	2.98	22.08	0.68	2.81		

Note: Figures in the brackets indicate percentage to the total.

Sources: 1. *Education in India*, Ministry of Education, New Delhi.
2. Directorate of School Education, Hyderabad, Andhra Pradesh.

The itemwise expenditure of the primary education in Table 5.1 indicates that more than 90 per cent of the total expenditure is devoted to salaries of teachers throughout the period of the study. The growth rates also indicate that the highest growth rate of (16.30 per cent) is recorded in the case of expenditure on equipment and appliances among the four items, and it is higher than that of the total expenditure.[1] Salaries of teaching staff constituted 95.03 per cent of the total expenditure in 1964-65, and it has reached the proportion of 96.66 per cent in 1981-82 and slightly declined to 94.67 per cent in 1989-90. The proportion of salaries of teachers to the total expenditure is comparatively higher than other remaining three items, i.e., salaries of non-teaching staff, equipment and other appliances, and others. The data in Table 5.1 show that from the beginning the proportion of teachers' salaries is more than nine times higher than the remaining three items. In 1964-65, the government spent Rs.847.78 lakhs on salaries of teaching staff out of a total expenditure of Rs.892.15 lakhs. The amount has increased to Rs.1394.92 lakhs in 1968-69, and it constitutes an increase of 1.6 times during the period. But, this proportion to the total expenditure has remained the same. It has further increased to Rs.2489.67 lakhs in 1974-75. The increase is nearly two times during 1968-69 to 1974-75. But the proportion of this item to the overall total has remained the same. Further, it has reached Rs.21051.27 lakhs in 1989-90. It is nearly eight times higher than in 1974-75, the proportion has slightly increased from 95.20 per cent to 96.66 per cent in 1981-82 and declined to 94.67 per cent in 1989-90. The increase in the expenditure on salaries of teachers is due to an increase in the size of the teaching staff in the state, and also because of the increase in the pay structure of the teachers. In Appendix Table 5.1, the salary structure of teaching staff in the state over a period of time is given. It appears that the teachers of primary schools are getting the highest amount of pay and allowances in the state as compared to other states in the country.[2]

The second item in the Table 5.1 is salaries of non-teaching staff. There is no uniformity in the expenditure on salaries of non teaching staff, and as a result their share in the total expenditure on primary education is found to be erratic. An amount of Rs.20.60 lakhs is devoted to the salaries of non-teaching staff in 1964-65, and the amount has nearly increased five times by 1970-71 with Rs.98.60 lakhs. The amount has however, declined the very next year in 1971-72 to Rs.24.66 lakhs, and the same trend continued upto 1975-76. The amount reached Rs.84.48 lakhs in 1976-77. By the end of 1989-90, the expenditure on salaries of the non-teaching staff reached an amount of Rs.693.31 lakhs. The rise and fall of the expenditure on non-teaching staff is found to be intermittently erratic between the years. This may be due to the increase in salaries and the payment of arrears to the non-teaching staff, or due to the scant attention paid by the agencies employing these people in the primary education sector. But, the trend of expenditure on this item seems to be on a continuous increase from the year 1976-77 till the end of the year 1989-90. The growth rate is found to be more than 6 per cent.

The more interesting aspect of this item is that it constitutes only around 2 per cent of the total expenditure, and it never exceeded the proportion of 5.84 per cent (1965-66) the highest amount in two decades. The proportion of the expenditure on the salaries of non-teaching staff consisting of ayah, clerk, sweeper, etc., has remained very low throughout the period of the study. Further, the existence of non-teaching staff in the primary schools is very rare, and those of the schools which are big in size and situated in urban areas, are the ones to have this 'luxury'. Therefore, the proportion of expenditure on this item has been less than five per cent.

(The quality of education in the primary schools can be discussed in terms of the equipments such as blackboard, chairs, charts, globe, etc., available in our primary schools. This is examined here in terms of the proportion of expenditure that is devoted to this item. It can be seen from the table that only Rs.4.01 lakhs were devoted to equipment and appliances in the year 1964-65, and the amount has increased to Rs.9.07 lakhs the next year (1965-66), and the amount has remained almost the same till 1975-76. An amount of Rs.19.20 lakhs were devoted to this item in 1975-76. Thereafter, the amount has constantly increased and reached Rs.125.52 lakhs in 1979-80, and has later declined to Rs.65.35 lakhs in 1981-82. But, a substantial increase is found during 1989-90 when the amount reached Rs.268.31 lakhs. The proportion of expenditure devoted to this item constituted 0.45 per cent in 1964-65, and the per cent has come down to an all time low of 0.12 per cent in 1974-75. It has reached 1.78 per cent in 1976-77 to 2.01 per cent in 1977-78 and reached the all time high of 2.33 per cent in 1979-80, and ultimately settled at 1.21 per cent in 1989-90. It is interesting to see that the amount has not reached even one per cent of the total amount during the entire period of the study, except during 1976-77 to 1981-82. It appears that the government is not following any rational criteria in allocating funds for this item. As a result, the expenditure on this item varies from year, to year and perhaps depends upon the availability of surplus amounts within the education sector, which, is then allocated to this item. However, the approach of the government and the system towards this item assumed significance from the year 1976-77, for which year it could be seen from the table that around a crore of rupees was devoted to equipment and appliances. This resulted in the highest growth rate 16.30 per cent of this item among all items of expenditure, examined under the expenditure on primary education in the state here.

The other items include all miscellaneous items and other items, which are not shown under the remaining items of expenditure. Interestingly, there is some consistency in this item for the period 1964-65 to 1975-76. The amount allocated to this item in 1964-65 was Rs.19.75 lakhs, and it reached Rs.66.22 lakhs in 1971-72 and the highest amount of Rs.104.60 lakhs was earmarked in 1975-76. The amount came down to Rs.55.12 lakhs in 1981-82, and it stood at Rs.222.49 lakhs in 1989-90.

The proportion of expenditure incurred on this item remained less than three per cent upto 1970-71, and reached a proportion of more than three per cent during 1971-72 to 1975-76 and was less than two per cent during the remaining period of the present study.

The expenditure is also expressed in constant prices. We have used the wholesale price index of 1961-62 as the base to deflate the expenditure, to indicate the influence of the prices on the salaries of teachers. It can be seen from Table 5.1 that the expenditure on salaries of teachers was Rs.693.20 lakhs in 1964-65 in constant prices, as compared to Rs.847.78 lakhs in current prices. Similarly, the total expenditure on primary education is found to be Rs.729.48 lakhs in 1964-65 in constant prices.

Total Expenditure on Primary Education

A sum of Rs.892.15 lakhs was devoted to primary education consisting of the expenditure on salaries of teachers, salaries of non-teaching staff, equipment and other appliances, and others in the year 1964-65. The amount was increased to Rs.2038.40 lakhs in 1971-72. It slightly declined in the year 1972-73 and the amount reached Rs.2615.27 lakhs in 1974-75. Therefore, there is a consistent increase in the amount of expenditure devoted to primary education which reached an amount of Rs.7343.22 lakhs in 1981-82, and increased to Rs.22235.38 lakhs in 1989-90.

The rate of growth of expenditure on primary education is estimated to be 8.23 per cent. As the salaries of teachers constitute the maximum amount of the expenditure on education, the rate of growth of this item is found to be the same as 8.37 per cent, that of the total expenditure.

The data on the items of expenditure on education show that the bulk amount of the expenditure, and almost the entire amount of expenditure on primary education, is used only for the salaries of the teachers. The salaries of non-teaching staff and the items of expenditure that result in the improvements of the quality of education, are not given any attention in the allocation of resources. The noteworthy point in this is, that even the meagre amounts devoted to these items are not rationally planned and allocated. The allocations to these items appear to be made on an ad hoc basis, by the administration, rather than the needs of this sector of education.

The data on the items of expenditure are available for continuous period from 1964-65 only. Even some of these figures are obtained from the records of Directorate of School Education. We have analyzed here only the items of expenditure for the period 1964-65 to 1989-90. This limitation may be kept in mind in understanding the structure of expenditure during a part of the period of the study, and it does not relate to the entire period of 1956-57 to 1989-90. We have, however, provided data relating to the total expenditure on primary education, for the entire period in the subsequent sections.

The growth in the expenditure on primary education on different items over the period of the study is also examined in terms of the growth rates between 1964-65 to 1968-69, 1969-70 to 1973-74 and 1974-75 to 1981-82, to understand in which period the increase in expenditure is substantial. It can be seen from Table 5.1, that among all items of expenditure during the period 1974-75 to 1989-90, its is in the latest period that it has been more than the previous periods. It was particularly striking that gave importance to educational aids, etc., during the recent period, which can be seen from the substantial increase in the expenditure on this item during the latest period. In other words, the expenditure on primary education, particularly on the quality aspects of educational aid etc., has been taken care of by the government from the year 1974-75 onwards.

The Support Structure for Primary Education

Primary education in the country, and therefore in the state of Andhra Pradesh is a constitutionally guaranteed facility for the people. It is assumed that it would be provided by the state. The constitution has also guaranteed certain rights to the minorities in our society to establish and run their own educational institutions. This has promoted a number of private minority institutions to operate in the state of Andhra Pradesh to establish educational institutions which provide primary education. Some of these institutions are maintained purely by private endowments of the minority community, and most of them receive grant-in-aid from the state government. But, the data presented by the government in their publication, *Education in India* does not include the expenditure on primary education of the institutions which are not recognized by the government, but run as private institutions. This is one of the limitations of the data here. However, the schools which are recognized by the government receive grant-in-aid as per the regulations of the state prescribed from time to time.

Grant-in-aid to Primary Education

The Government of Andhra Pradesh has been following the policy of grant-in-aid towards the financing of primary education which is conducted under different managements. The state has laid down a code, on the basis of which institutions are recognized for grant-in-aid. This was done in 1965. The government has, however, incorporated the grant-in-aid rules in its comprehensive act on education in 1982. The details are given in the Appendix which explain the *modus operandi* of the grant-in-aid for primary education in Andhra Pradesh.

The Sources of Finances for Primary Education

The data relating to the proportion of expenditure devoted by each source to the total direct expenditure on primary education are presented in Table 5.2. It identifies the major sources of income for the financing of primary education in Andhra Pradesh. They are: (1) government consisting of state and central governments, (2) local bodies, (3) fees, and (4) endowments. We have also included the item 'others' to include the miscellaneous items and other sources which are not included in the above four items.

The table shows that 74.48 per cent of the expenditure on primary education was contributed by the government in 1956-57. The proportion of expenditure that has been contributed by the government on primary education has increased to 80.49 per cent in 1961-62. Thereafter, it has been continuously increasing. It reached 98.75 per cent in 1970-71 and has remained almost at the same proportion till 1989-90. It stands at 97.46 per cent of the total expenditure by 1989-90, the latest year for which data are made available.

Table 5.2

Sources of Finance for Primary Education

(in percentage)

Year	*Government*	*Local Bodies*	*Fees*	*Endowments*	*Others*	*Total*
1	*2*	*3*	*4*	*5*	*6*	*7*
1956-57	74.48	19.67	3.07	1.03	1.75	100.00
1961-62	80.49	14.53	2.34	0.99	1.65	100.00
1966-67	97.20	2.16	0.33	0.31	NA	100.00
1970-71	98.78	0.61	0.22	0.39	NA	100.00
1976-77	98.29	0.28	0.38	0.08	0.92	100.00
1981-82	98.87	0.04	1.21	0.02	0.01	100.00
1989-90	97.46	Nil	1.53	Nil	0.92	100.00

Note: Figures are rounded off to the nearest number.

Source: Directorate of School Education, Hyderabad, Andhra Pradesh.

The local bodies consisting of the old district boards, the present Zilla Parishads, Samithis, Panchayats, Municipalities and other local bodies, contributed a significant part of their resources to primary education.[3] It is clear from Table 5.2 that the local bodies have contributed 19.67 per cent of the total expenditure on primary education in 1956-57. The amount has declined to 14.53 per cent in 1961-62, and 2.16 per cent in 1966-67. The method of financing primary education has substantially changed in the 1960's and as a result, the contribution from this source has declined drastically in 1966-67. The amount devoted by this source now stands at 0.04 per cent. Because most of the local bodies today receive cent per cent grants from the state government, as such we have included the amounts under the contributions of the government.

There were some schools which were charging fees even at the stage of primary education in the state. Even today some of the recognized grant-in-aid schools charge a nominal fees. According to the grant-in-aid rules, the fees income becomes a part of the state income once the school is admitted under the grant-in-aid rules. Therefore, this source exists in this state even today.

It is seen from the table the proportion of fees income to the expenditure on primary education constituted 3.07 per cent of the total expenditure in 1956-57. This has declined to 2.34 per cent in 1961-62. It has reached an all time low of 0.22 per cent in 1970-71. It is interesting that the amount has again increased to 1.21 per cent in 1981-82, and it stands at 1.53 per cent in 1989-90. This is because of the establishment of some schools in the private sector which have been charging a nominal fees, but later, were admitted to the grant-in-aid scheme and are allowed to charge fees.

Private endowments used to contribute the maximum amount of resources to the expansion of higher education in the country. Even at the stage of primary education, private philanthropist organizations have been doing yeoman service in the spread of primary education in the state of Andhra Pradesh. But, the contribution of the endowments to primary education has been declining from the very beginning of the formation of the state of Andhra Pradesh. It can be observed from Table 5.2 that 1.03 per cent of the expenditure on primary education has come from this source in 1956-57. This has reached 0.99 per cent in 1961-62, and thereafter it has been declining year after year. It reached 0.02 per cent in the year 1981-82 and startup from endowments in 1989-90.

The miscellaneous sources of finances such as fines, foreign aid contributions, private foreign organizations, etc., and other sources used to contribute 1.75 per cent in 1956-57, and it has declined to 1.65 per cent in 1961-62. However, this item has not been collected and presented in the records of government till 1975-76. It is noticed from the records of the Directorate of School Education that an amount of 0.92 per cent has come from this source and it has reached the negligible proportion of 0.01 per cent in 1981-82 and 0.92 per cent in 1989-90.

The Government as a Major Contributor of Finances for Primary Education

The study of sources of finance for primary education has shown clearly that the government has been taking a greater responsibility from the very beginning of the formation of the state. But, one fourth of the expenditure on primary education was coming from sources other than the government during the period 1956-57 to 1961-62. The state has emerged as the dominant, and almost the sole contributor of finances of primary education in the state from the year 1966-67. It is found that almost 99 per cent of the expenditure on primary education is now being contributed by the government. If we relate the figures of Table 5.2 with that of Table 5.1, we get a feeling that the emergence of the state as a dominant contributor of finances for primary education has also been responsible in contributing to the quality of education at this stage from the year 1976-77 to a certain extent, because, the expenditure on equipment and appliances has been increasing from less than 1 per cent, before the year 1975-76 to more than 1 per cent and even 2 per cent thereafter. This shows the dominant position of the government in contributing to the finances for primary education. However, its position in terms of the total education in the state appears to be declining. An attempt is made here to examine this point.

The Share of Primary Education in the Financing of Total Education in the State

It has been established in the preceding sections that the government has emerged as the sole contributor of finances for primary education in the state. It is also necessary to see the extent to which expenditure on primary education has been increased by diverting funds from other stages of education, and allocating them to this head. In order to examine the share of primary education finances in the total funds used for education in the state the amount and the proportion of each level to the total expenditure on education is presented in Table 5.3 for selected years.

An amount of Rs.627.76 lakhs was devoted to primary education in 1956-57. The amount was increased to Rs.810.33 lakhs in 1961-62, and to Rs.3472.99 lakhs in 1975-76. The total amount of expenditure on primary education had reached Rs.7343.23 lakhs in 1981-82 and Rs.22235.38 lakhs in 1989-90. This is a 3998.22 per cent increase over a period of three decades.

Table 5.3

Direct Expenditure by Level of Education in Andhra Pradesh for Selected Years

(Rs. in lakhs)

Year	*Primary*	*Middle*	*Secondary*	*Higher*	*Special and Others*	*Total*
1	*2*	*3*	*4*	*5*	*6*	*7*
1956-57	627.76 (51.39)	61.31 (5.03)	273.30 (22.37)	207.39 (16.98)	51.74 (4.24)	1221.50 (100.00)
1961-62	810.33 (37.67)	174.32 (8.10)	595.17 (27.67)	450.86 (20.96)	120.26 (4.59)	2150.94 (100.00)
1966-67	1329.41 (32.93)	330.90 (8.20)	1368.26 (33.90)	1104.87 (27.37)	97.03 (2.40)	4036.41 (100.00)
1971-72	2038.40 (28.53)	709.31 (9.93)	2157.72 (30.20)	2319.59 (32.47)	79.66 (1.12)	7145.36 (100.00)
1975-76	3472.99 (30.41)	1403.31 12.29)	3387.39 (29.66)	3083.09 (26.99)	77.03 (0.68)	11423.81 (100.00)
1981-82	7598.82 (27.53)	3944.23 (14.29)	7877.18 (28.54)	8021.36 (29.05)	162.41 (0.59)	27604.00 (100.00)
1985-86	25727.00* (45.92)	-	15743.00 (28.35)	11300.00 (20.60)	2797.00 (5.13)	55567.00 (100.00)
Percentage change	3998.22	-	5660.34	5348.67	5305.87	4449.08

Sources: 1. *Education in India,* Ministry of Education, New Delhi.
2. Directorate of School Education, Hyderabad, Andhra Pradesh.

Note: * Includes middle education.

The expenditure on middle school or upper primary education was Rs.61.31 lakhs in 1956-57. The amount had increased three fold to Rs.174.32 lakhs in 1961-62. This amount was further increased to Rs.709.31 lakhs in 1971-72 and to Rs.1403.31 lakhs in 1975-76 and in 1981-82 it reached Rs.3944.23 lakhs and further increased by 1985-86.

The expenditure on secondary education was found to be Rs.273.30 lakhs in 1956-57. The amount increased two fold to Rs.595.17 lakhs in 1961-62. The amount further increased by four times to Rs.2157.72 lakhs in 1971-72, then it reached Rs.7877.18 lakhs in 1981-82 and further increased to Rs.15743.00 lakhs in 1985-86. This is an increase of 5660.34 per cent during 1956-57 to 1985-86.

There is no uniformity in the expenditure on special education among all the five levels. The amount has increased every five years upto 1961-62, and then declined to Rs.79.66 lakhs in 1971-72. The amount has again increased in 1981-82 to Rs.162.41 lakhs and it reached Rs.2797.00 lakhs in 1985-86. The growth rate of the expenditure on this item is therefore 5305.87 per cent between 1956-57 to 1985-86.

The expenditure on higher education was found at Rs.207.39 lakhs in 1956-57. It increased more than two times to Rs.450.86 lakhs in 1961-62, and it has increased to Rs.2319.59 lakhs in 1971-72 then it reached Rs.8021.36 lakhs in 1981-82 and stood at Rs.11300.00 lakhs in 1985-86. This is an increase of 5348.67 per cent during the period of the study.

The total direct expenditure on education in Andhra Pradesh was Rs.1221.50 lakhs in 1956-57. It has increased more than three times to Rs.4036.41 lakhs in 1966-67, it further increased to Rs.7145.36 lakhs in 1971-72. Then it reached to Rs.27604.00 lakhs in 1981-82 and to Rs.55567.00 lakhs in 1985-86. This is 4449.08 per cent increase over the period of three decades.

The percentage change in the growth of expenditure shows that the rate of growth of expenditure on primary education is less than all other levels of education.

The proportion of expenditure on each stage of education to the total expenditure on education indicates the priority accorded to each stage. If the information is presented for a period of time, it will further indicate the policy towards each stage of education over a period of time. This information is also given in Table 5.3 in the parenthesis. It shows that primary education used to take more than 50 per cent of the funds in 1956-57. This amount declined after five years to 37.67 per cent in 1961-62. The proportion further declined in every five years and reached 28.53 per cent in 1971-72. There was a slight increase in 1975-76 when the proportion reached 30.41 per cent. It further declined in its share in 1981-82 with 27.53 per cent of funds used for this stage. The proportion is not known for the year 1989-90 as the figure includes expenditure both on primary and middle. In contrast, upper primary education has been constantly given a lift from its 5.03 per cent of resources in 1956-57 to 8.20 per cent in 1966-67 and to 12.29 per cent in 1975-76. The figure in 1981-82 stands at 14.29 per cent. This increase in the expenditure on upper-primary and subsequent levels of education may be partly due to the high enrolment ratios at the higher levels of education. When these students pass out and go for higher stages, the expenditures should automatically increase for the higher levels if the total expenditure on education remains almost the same. But it should also be remembered that the increase in population at the 6-11 age group naturally pushes the demand for more funds even at the stage of primary education. But, the data suggest that the expenditure on secondary education has taken 22.37 per cent of the total funds in 1956-57 and the amount has increased to 28.54 per cent in 1981-82 and further increased to 28.35 per cent in 1985-86. Similarly, in the case of higher education where this is a substantial increase in the proportion of the funds devoted to education from 16.98 per cent in 1956-57 to 32.47 per cent in 1971-72 to 26.99 per cent in 1975-76. The figure for 1981-82 stands at 29.05 per cent. The figures provided in the table are provisional and therefore, it is not possible to comment. However, the overall trend shows that there is a substantial increase in the use of funds for higher stages of education during the period 1956-57 to 1981-82, and declined by 1989-90 to 20.60 per cent.

The allocation of funds to each level of education and their growth rates over a period of time show that primary education is relatively neglected. It further shows that the increase in the funds for higher stages of education has been at the cost of primary education. If the expenditure on higher education is increased in proportion to the increase in the expenditure on primary education, the share of primary education in the total expenditure would not have declined. But, the data in Table 5.3 shows that the expenditure on primary education has been substantially eroded, and the expenditure on higher stages has increased. This is not a rational policy of allocation of funds to each stage of education. Primary education, being a constitutionally obligatory service and an universally declared human right, should have been provided with funds in proportion to the increase in the number of people enrolled, so that it would increase the literacy rates in the subsequent years by improving the quality of education and reducing the dropout and stagnation rates to a large extent at this stage. The data, however, suggest that in the financing of primary education, the state of Andhra Pradesh has not been able to follow any systematic and rational policy.

Per capita and per Pupil Expenditure on Primary Education

In order to examine how much of total expenditure on primary education is devoted to each student, the average cost per student is estimated. So far, we have examined the expenditure on primary education, without referring to the number of students enrolled. Therefore, the expenditure per student on primary education, and also per capita expenditure on primary education vis-a-vis per capita expenditure on all levels of education in the state of Andhra Pradesh during the period 1956-57 to 1985-86 is estimated and provided in Table 5.4. The table also indicates the proportion of State Domestic Product (SDP) that is devoted to primary education during the same period. It is clear from the table that the expenditure on primary education per student has been increasing from Rs.25.58 in 1956-57 to Rs.52.50 in 1970-71 to Rs.139.02 in 1981-82 and to Rs.401.00 in 1985-86. Similarly, the per capita expenditure on primary education has increased from Rs.1.87 in 1956-57 to Rs.4.76 in 1970-71 to Rs.14.19 in 1981-82 and to Rs.40.50 in 1985-86. The rate of growth in the per capita expenditure seems to be much higher than the per student expenditure.

The per capita expenditure on total education (all levels) in 1956-57 was found to be Rs.3.64 and it has reached Rs.16.69 in the year 1970-71 goes up to Rs.51.56 in 1981-82 and to Rs.87.00 in 1985-86. The rate of increase in the per capita expenditure on education is found to be much higher during 1976-77 to 1985-86 quinquennial period than the previous periods. The same trend is also found in the case of per capita expenditure on primary education.

Table 5.4

Per Student and Per Capita Expenditure on Primary Education in Andhra Pradesh

Year	*Expenditure on Primary Education per Student*		*Expenditure on Primary Education per Capita*		*Expenditure on Total Education per capita*	*Expenditure on Primary Education as a Proportion in SDP*
	Current Prices	*Constant Prices*	*Current Prices*	*Constant Prices*		
1	*2*	*3*	*4*	*5*	*6*	*7*
1956-57	25.58	29.86	1.87	2.18	3.64	0.73
1961-62	23.82	23.82	2.25	2.25	5.98	0.76
1966-67	34.45	22.98	3.35	2.23	10.16	0.73
1970-71	52.50	28.99	4.76	2.63	16.69	0.81
1976-77	81.26	25.41	7.06	2.21	23.22	0.78
1981-82	139.02	38.28	14.19	3.91	51.56	0.91
1985-86	401.00	268.55	40.50	27.12	87.00	1.90
Percentage Change	1467.63	-	2065.70	-	2290.10	160.27

Sources: 1. *Education in India*, Ministry of Education, New Delhi.
2. Directorate of School Education, Hyderabad, Andhra Pradesh.

The per capita and per student expenditure are expressed in current prices in the Table 5.4. But, the expenditure on education like any other expenditure is subject to influences of rising prices. And therefore, the expenditure has to be converted into constant prices. This requires a deflator. But, we do not have a deflator for the educational expenditure as such. The wholesale price index is used as a price deflator with 1961-62 prices taken as the base year. The per student expenditure expressed in constant prices indicate that there are fluctuations in the expenditure. It is found that Rs.29.86 were devoted per student in 1956-57 and the amount has come down to Rs.28.99 in 1970-71 and it went up again to Rs.38.28 in 1981-82. However, the per capita expenditure on primary education has almost remained at Rs.2.25 till 1976-77, and the amount has increased to Rs.3.91 in 1981-82 and again increased to Rs.27.12 in 1985-86. The per student and per capita expenditure as expressed in constant prices show that there is not much change in the real amounts that are devoted to primary education in the state.

The per capita and per student expenditure has, however, one limitation. That is, it does not include the indirect expenditure. But it constitutes around 2 per cent of the total expenditure, and thereby, our conclusions will not be affected if it is not included in the estimates.

In order to examine the state's effort in promoting primary education, an attempt is made here to find how much of the State's domestic product is devoted to primary education. In fact there were a number of commissions from the time of Kher Committee that had emphasized that at least 20 per cent of the budget resources should be devoted to education.[4] Similarly, the Kothari Commission on Education (1964-66) had recommended that at least 6 per cent of the Gross National Product (GNP) should be used for education in the country by 1985-86.[5] The experience of the Third World countries shows that by the year 1977 they were able to devote 4.1 per cent of their GNP, for education, while the developed countries used 6.4 per cent of the GNP, for education.[6] If the experiences of the developing countries upto 1977 are compared with the Indian investment on education in 1979-80 (the latest year for which the data are available) we can see that only 3.9 per cent of the GNP, in India is devoted to education.[7] It is generally expected that half of the amount is to be devoted to primary education, as the number enrolled at this stage is much higher than at higher levels of education. Further, it is obligatory on the part of the Government to provide elementary education to every child in the country. Viewed from this point, the expenditure on primary education in the state of Andhra Pradesh as a proportion of SDP, is found to be discouraging.

In Table 5.4, it is presented that 0.73 per cent of the SDP, of the state of Andhra Pradesh was used for primary education in 1956-57, and the amount has increased to 0.81 per cent in 1970-71, and has come down again in 1976-77 to 0.78 per cent. The proportion stood at 0.91 per cent in 1981-82 and increased to 1.90 per cent in 1985-86. This shows two things: one, there is no continuous increase or decrease in the expenditure on primary education when it is expressed as a proportion of the SDP, two, the amount has not exceeded even 2 per cent of the SDP during the period of the study. This shows that primary education in the state of Andhra Pradesh was not given the necessary attention that it really deserved from our planners and policy makers. The educational effort of the state can be compared with that of other states for the year 1975-76, the year for which comparable figures are available. It is reported by Tilak that while the average per capita expenditure on education is Rs.35 at the all-India level, Andhra Pradesh spent only Rs.25 per capita. And Andhra Pradesh is the second from below, next to Bihar in its educational effort. The neighbouring states of Tamil Nadu (Rs.37), Karnataka (Rs.35), Orissa (Rs.26), and Maharashtra (Rs.51) are spending much higher than that of Andhra Pradesh. The educational effort of the state indicates why Andhra Pradesh is now considered as one of the nine educationally backward states in the country.

Conclusion

The structure of expenditure on primary education, consisting of the items of expenditure and the sources of finance for the expenditure in Andhra Pradesh, has clearly indicated that about 95 per cent of the expenditure on primary education is devoted to the salaries of the teachers. The expenditure on equipment and appliances and other such items that are essential for the quality of education, have been paid very little attention. Further, there is no systematic trend in the allocation of funds for these items. There is some indication towards improvements in the quality of education from 1974-75. Finances for primary education came from a number of sources at the time of the formation of the state in 1956-57. But, slowly the resources from endowments and other private sources have dried up. The government emerged as the dominant, and almost the sole contributor of the finances for primary education in the state. The more interesting aspect of the allocation of resources among the different levels of education is that primary education got around 50 per cent of the total educational expenditure at the time of 1956-57. This was almost reduced to half, i.e., 27.53 per cent of the funds allocated for education in 1981-82. This may be due to the fact that more resources are allocated for higher education at the expense of primary education. Further, the limited increase in the expenditure for primary education is further curtailed by the increase in prices. The per capita and per student expenditure on primary education expressed in constant prices have never reached Rs.5 and Rs.50 respectively during the period of the study. The proportion of SDP, devoted to primary education in the state, which is expected to devote at least 3 per cent of its SDP, has not reached even 2 per cent by 1985-86. The educational effort of the state as a whole as compared to the effort made by its neighbouring states show that Andhra Pradesh is the second state from below in the country in this respect. This shows that the state of Andhra Pradesh has never paid enough attention in devising rational principles of financing of education and improving its educational development efforts in the state. Perhaps, this may be responsible for making the state one of the nine educationally backward states as per the 1991 census.

APPENDIX

Table 5.1

Scales of Pay of School Teachers

S. No.	*Grade*	*1958*	*1961*	*1969*	*1974*	*1978*	*1986*	*1993(Running Scale)*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1.	Lower Grade	30-1-45	55-1-59-2-75	65-3-95-4-115	175-8- 255-9-300	350-10-460-15-550	1010-35-1360-40-1840 (After 10 years 1010-40-1450-45-1945)	1975-50-2075-8 -3750-130-4010
2.	Higher Grade	35-1-40-2-60	65-2-95	75-3-96-5-136	180-9-270-10-350	410-10-460-15-625		
3.	Secondary	50-3-92-4-120	80-4-110-5-150	96-6-144-8-200	250-10-430	450-15-660-20-700	1280-50-1780-60-2440 (After 10 years of Higher Grade)	
4.	BEd Assistants	90-4-110-5-155-7 1/2-200	130-5-155-71/2 - 200-10-250	150-10-300	320-14-460-15-580	575-20-775-25-950	1280-50-1780-60-2440 (After 10 years 1330-60-1930-10-2630)	3110-90-3200-110-130-4400
5.	Non-Gazetted HMs.	150-7 1/2-210-10-300	180-7 1/2-210-10- 300-15-375	230-15-380-20-80	430-20-650-25-800	750-30-1020-35- 1300	1550-70-2250-80-3050	5200-190-6150-230-6380
6.	Gazetted HMs of Higher Secondary Schools		325-20-425-25- 700	375-25-600-30-750	600-30-960-35-1100	1050-40-1250-50-1600	1550-70-2250-80-3050	

Source: A.P.Teachers' Federation, Vijayawada.

GRANT-IN-AID RULES OF ANDHRA PRADESH, 1965

Preamble

A sum of money is annually set apart to be expended under these rules as grant-in-aid of recognized educational institutions under private management with the object of extending and improving secular education in the state and such grants shall be given impartially and without reference to any religious institution, to all such institutions, which impart sound secular instruction, subject to the conditions hereinafter specified and with due consideration of the requirements of each locality, and of each institution and of the funds available.

Recognition

No grant under the provisions of these rules shall be paid to an institution, or in respect of a department or class therein which has not been recognized by or under the Andhra Educational Rules.

Management

Every institution on behalf of which aid is sought shall be under the management of one or more persons recognized by the department who in the capacity of proprietors, or of trustees, or of members of a committee elected by the Society or Association by which the institution is maintained, shall undertake to be answerable for the maintenance of the institution and the fulfillment of all the conditions of recognition and aid including the due enforcement of such rules of discipline as are prescribed from time to time.

The management may, with the approval of the department, appoint a person as correspondent to transact the current business of the institution with the department.

Applications for change of management in respect of secondary schools and special institutions (excluding oriental colleges) shall be made to the Regional Deputy Director of Public Instructions concerned. In respect of all other institutions applications for change of management shall be made to the Director of Public Instructions.

Applications for change of management of institutions should be made to the Director. The Director shall approve the change of correspondentship in respect of colleges. The change of correspondentship in respect of other institutions shall be approved by the officers authorized by the Director on that behalf.

Sanctioning Authority

Except in cases where reference to government is required or where authorities subordinate to the Director have been permitted to sanction grants, all grants paid from state funds are sanctioned by the Director. The Deputy Director of Public Instruction (Finance) and any other Gazetted Assistant in his office as may be empowered in this behalf may also exercise the powers of the director in this behalf. The Regional Deputy Directors concerned are also authorized to sanction grants in respect of secondary schools and special institutions (excluding oriental colleges) under this rule.

Reservation of Discretion by Government

Notwithstanding anything contained in these rules, the government reserve to themselves the right to refuse or to withdraw any grant at their entire discretion. A sanctioned grant may be withdrawn by the authority empowered to sanction such grant at a time before payment and shall not be deemed to be a debit enforceable by suit or by any other legal process.

Lapse of Grant

The eligibility of an institution for purposes of aid from state funds shall cease automatically if the recognition of that institution is withdrawn and such ineligibility shall take effect from the date from which the withdrawal of recognition takes effect. Subject to this condition, an institution which works throughout a financial year or for a part of a year shall be eligible for grant of such period, whether or not it works beyond that period.

Disbursal of Grant

Teaching grant disbursed to an educational institutions during an year relates to the working of the institution during the previous financial year and shall be treated as such except for purposes of classification under accounts.

Direct Payment to Teachers

Whenever the management of schools or colleges allows the salaries of teachers to fall into arrears for more than two months, the Director or the Regional Deputy Director as the case may be may cause an enquiry to be made into the matter, and after considering the report of enquiry, order the disbursal of the salaries due to the staff from out of the grant that may be payable to the institution under the rules in this code any pay the balance, if any, to the management.

Income to be Devoted to Education Purposes

No aided institution shall be allowed to spend any portion of its income except in furtherance of the purposes of the institution or for similar purposes approved by government.

All Payments are Subject to Audit

The accounts of every institution receiving aid from government shall be subject to audit and it shall be open to the Director to decide in respect of each institution whether such audit shall be carried out by the auditors of his department or by outsiders and how often and at what intervals such audit shall be carried out. The auditors deputed by Director shall be given full access to all registers, records, account books, etc., which the auditors find it necessary to be pursued for a satisfactory discharge of their duties. In case of each institution not covered by the system of departmental audit, the financial statement of that institution should bear the counter signature of a competent auditor not in any way connected with the institution. The auditor should certify to the receipts and expenditure being correctly stated and supported by proper vouchers. The decision of the Director in the case of colleges and of the District Educational Officer concerned in the case of other institutions as to whether any person is a competent auditor will be final.

Payment of Dearness Allowance

In case where the managements of aided educational institutions do not pay dearness allowance or war allowance at government rates to the staff under their control, the Director or the Regional Deputy Director as the case may be shall carry out investigation into the financial position of the institution and if, after such investigation he is satisfied that the managements can afford to pay the allowance at government rates shall direct the management concerned to pay the allowance at government rates. If even after the issue of such a direction, the management receiving grants from state funds do not pay the allowance at government rates, the grant payable to them may be withheld either in full or in part. The refusal of the payment of the allowance at government rates by management which do not earn any teaching grant, may be considered as a valid reason for the withdrawal of recognition.

Scale of Pay

The scales of pay adopted for the several members of the teaching and non-teaching staff in aided secondary schools shall not be less than the scales prescribed by the government

Payment of Grants

Method of payment of grant due for the year shall be worked out as basis of the September pay bill payable on the 1st of October, in respect of newly opened schools and in all other cases on the basis of July pay will be payable on the 1st of August. The grant so arrived at, after adding also 10 per cent for maintenance and contingencies, shall be divided into equal monthly installments and shall be paid to the correspondent monthly in the shape of cheques to be issued so as to reach the correspondent on the last working day of the month after obtaining a certificate of disbursement of salaries of the previous month signed by the both the correspondent and the Headmaster. The excess or short payments of grants, if any, will be adjusted after the audit of the accounts of the school is over.

Note: For purposes of fixing maintenance grants the expenditure incurred during the course of the financial year (1st April to 31st March) will be taken into account.

Drawal of Grants

(1) Grants may be drawn or a bill prepared in the prescribed form (Appendix-F) and countersigned by the District Educational Officer concerned.

(2) On receipt of the countersigned bill, the manager shall endorse it and present it at the nearest treasury in accordance with the instructions given in the sanction order and obtain payment.

Fixing the Amount of Grants

Hundred per cent of expenditure or salaries of teaching and non-teaching staff minus fees at standard rates to be limited to actual deficit subject to the condition that the existing rates of fees (1963-64) must not be reduced.

Any balance in actual fees collected shall be utilized by the managements towards other recurring expenses like contingencies etc.

THE ANDHRA PRADESH EDUCATION ACT, 1982 CHAPTER VIII-GRANT-IN-AID

The Government of Andhra Pradesh has enacted a comprehensive act for the first time incorporating all levels and aspects of education in the state. It has included a chapter or grant-in-aid. Though, the previous grant-in-aid code appears to have not been repealed, the grant-in-aid chapter in this act provides legal sanction to these rules. The act comes into effect from 18th July, 1982.

Government to set Apart a Sum for Giving Grant-in-Aid to Certain Recognized Institutions

The government shall, within the limits of its economic capacity, set apart a sum of money annually for being given as grant-in-aid (hereinafter in this Act referred to as grant) to local authority institutions and private institutions in the state recognized for this purpose in accordance with rules made in this behalf.

Authorities which may Sanction Grant

(1) The government may in such cases as they think fit, by order sanction grant to any recognized local authority educational institutions or private educational institution subject to such conditions as they may impose in the order relating to such grant.

(2) Every grant sanctioned under sub-section (1) shall be disbursed by the Director or such other officer subordinate to the Director as the government may, by a general or special order, authorize in this behalf, in such manner and subject such conditions as may be prescribed.

(3) The manager of every recognized institution which is receiving any grant out of state funds shall be responsible for the fulfilment of all the conditions subject to which such grant has been given.

Money Received from Sources other than Grant

(1) Any money received by the way of voluntary donation from donors may be accepted by the institution and the fact shall be intimated within forty days from the date of such acceptance to the competent authority. Such money shall be deposited in the account of the institution, in such bank as may be approved by the government and shall be applied and expended for the improvement of the institution and the development of educational facilities and for such other purposes as may be prescribed.

(2) No money shall be collected at the time of admission by any educational institution as a condition precedent to such admission except towards the prescribed fees. Where any institution is found to be collecting such money, every person, who, at the time of such collection was incharge of, and was responsible to the institution for the management of the institution shall, on conviction, be punished with imprisonment for a term which may extend to six months or with fine which may extend to one thousand rupees or with the both. On such conviction, the institution shall refund the money so collected to the party whom it was collected.

Application for Sanction of Grant and the Conditions to be Fulfilled on such Sanction

(1) Every application for the sanction of grant shall be made to the government, in such form as may be prescribed and shall contain a declaration signed by the manager of the recognized institution to the effect that the conditions of recognition and of grant are being and shall continue to the fully observed, that all facilities for inspection of that institution, its accounts, registers and other records relating to the grant shall be afforded to the inspecting staff deputed for the purpose and that all the returns and reports prescribed in this behalf shall be submitted to the competent authority with in the time specified by it.

(2) The government may sanction such grant or for good and sufficient reasons may refuse to sanction such grant.

(3) Subject to the other provisions of this Act, any order passed by the government refusing to sanction the grant shall be final and shall not be questioned in any court of law.

Power of Government to Withhold, Reduce or Withdraw Grant

(1) Notwithstanding anything in this chapter, the government may, after such enquiry as they may deem fit, withhold, reduce or withdraw any grant payable to an educational institution having regard to the funds at the disposal of the government or the conduct and efficiency and the financing condition of such institution, after giving an opportunity to the manager of the institution concerned of making a representation against such withholding, reduction or withdrawal.

(2) Without prejudice to the generality of the provisions of sub-section (1) or any other provision of this Act, the government may, after such enquiry as they may deem fit, withhold, reduce or withdraw any grant payable to any educational institution if the manager of the institution concerned:

  (a) fails to fulfil all or any of the conditions of grant;

  (b) denies admission to any citizen on grounds only of religion, race, caste, language or any of them;

  (c) allows any employee of the institution to take part in any agitation intended to bring into hatred of contempt, or intended to excite or attempt to excite disaffection towards, the government established by law in India;

  (d) directly or indirectly, encourages any propaganda or practice or wounding the religious feelings of any class of citizens of India or insulting the religion or the religious beliefs of that class;

(e) is guilty of falsification of registers, of misuse of funds for purposes other than those for which they are collected;

(f) fails to remedy within such reasonable time as may be specified by the competent authority, the defects in the maintenance of accounts pointed out by the auditors; or

(g) fails to restore, within the time specified by the competent authority, an employee whose service have been wrongfully dispensed with or fails to pay him any arrears of salary or other benefits when directed to do so by the competent authority.

(3) Subject to the other provisions of this Act, every order passed under this section shall be final and shall not be questioned in any court of law.

Utilization of Funds and Movable Property of Private Institution

(1) All the money collected, grants received and other movable property held by or on behalf of a private institution shall be utilized for the purposes for which they are intended and shall be accounted for by the manager in such manner as may be prescribed.

(2) All the money received or held by or on behalf of every private institution shall be deposited in a bank.

(3) The surplus fund of every such institution shall be invested in such manner as may be prescribed and shall be utilized towards educational development only.

Explanation

For the purpose of this section 'surplus fund' means all the money that remain unused with the institution at the beginning of an academic year, after providing for all the objects, needs, requirements or improvements of the institution during the previous three academic years.

Notes

1. The data relates to expenditure on primary schools and these do not include a small proportion of primary sections in upper-primary schools. It is assumed that it will not alter or influence the inferences here as the analysis pertains to structure and growth.
2. See the Government of Andhra Pradesh Comparative Statement of Salaries of School Teachers advertised at the time of Teachers' strike in 1986.
3. Present connotations for these have changed from the year 1986 as· Zilla Praja Parishad, Mandal Praja Parishad, Panchayats and Municipalities.
4. Kher Committee (1950) quoted in *Expenditure on Education as shown in Central and State Annual Budgets*, Central Ministry of Education, New Delhi, 1978.
5. Government of India, *Education and National Development*, NCERT, 1969, and also see J.P. Naik, *The Main Recommendations of the Report of the Education Commission*, NCERT, New Delhi, p.57.
6. Schiefelbeen, E., *Educational Financing in Developing Countries*, International Development Research Centre, Ottawa, 1983, p.5.
7. Tilak, B.J.G., "Educational Finances in India", (Mimeo) NIEPA, New Delhi, 1986, p.5.

Chapter 6

Budgetary Resources for Primary Education

The expenditure on primary education and the sources through which it is financed have been examined in the previous chapter. It is clear now that, the Andhra Pradesh government has emerged as the sole contributor of the finances for primary education, contributing around 99 per cent of the total funds. Therefore, the expenditure on primary education takes place through the budgetary transactions of the Government of Andhra Pradesh. We have also noted in the previous chapter that there are sources other than the government through which finances for primary education came prior to 1961-62. But these sources have virtually dried up by 1989-90. The State has emerged as the single contributor of finances for education. It is well known that all government financial transactions are subjected to a systematic budgetary process. The budgeted expenditure on various levels of education by the government, therefore, reflects the government's policy towards primary education.

The purpose of the present chapter is mainly to examine the trends in the growth of budgeted expenditure on primary education in comparison with other levels of education in the state during a period of three decades. It is also necessary to examine the structure of budgeted expenditure on education to find out the relative importance of each level of education in the financial allocations of the government. In the budgetary process of government transactions, it is always found that what is budgeted is not sufficient at the end of the year. Therefore, the actual expenditure and the budget estimates always do vary. It is one of our objectives here to examine the difference between the budget estimates and actual expenditure incurred on primary education.

The Budgetary Process and Expenditure on Education

The budget is an annual statement of expected revenue and expenditure during a financial year. It includes the financial statements on various departments of the government. However, the figures specified in the budget estimates of a department do not strictly restrict the department to confine to the figure in their usually transactions, though it is by conviction, and as a rule get prior sanction to spend the money that are not budgeted. There will always be generally a number of unforeseen contingencies that would force the departments to spend more than what is budgeted. Therefore, a difference always arises at the end of each financial year between the budget estimates and the actual expenditure. These accounts will be again audited by the Comptroller and Auditor General of India, who finally provides the final amount of expenditure that is actually made by each department in a financial year. The audited report is sent to the respective state governments who in turn provide the actual expenditure that is made by each department in the previous year along with the budget estimates. These figures are usually presented with a lag of two years. Thus there is a difference between the budget estimates and actual expenditure made on a particular head of expenditure. In order to find out the actual expenditure incurred on a particular head, it is essential to take the accounts or the actuals, but not the budget estimates. There is also a distinction between non-plan expenditure and plan expenditure. The non-plan expenditure relates to the normal committed expenditure of government in a particular department, whereas plan expenditure depends upon the plan proposals and outlays. Therefore, the Finance Minister introduces both the non-plan and plan budgets separately in the State Assembly for its approval. In order to obtain the total expenditure that is made on a particular head of expenditure, it is necessary to add both the plan and non-plan expenditure of a particular year.

However, plan expenditure in general constitutes a small proportion of the non-plan expenditure, particularly in the case of education department.

The budgetary estimates for various levels of education are examined in this chapter. But, the definition of each level of education followed by the Ministry of Finance for the purpose of budget estimates seems to be different from the one that is followed by the department of education. This distinction is not clear, particularly at the stage of elementary education. The distinction between primary education consisting of five years of schooling in the age group of 6-11, and upper-primary education consisting of two years of schooling (three years upto 1969-70) in the age group of 11-13 has not been made in the budget proposals of the Government of Andhra Pradesh from the very beginning. It has been noted only as primary education in the budget proposals of the education department. It is noted that this major head '277-Education' is sub-divided into several sub-major heads, namely, primary education, secondary education, special education, pre-university education, university and other higher education, technical education, sports and youth welfare and general.[1] The sub-major head of the 'primary education' includes expenditure on Direction and Inspection, government primary schools, assistance to non-government primary schools, assistance to local bodies for primary education, teachers training and other expenditure.[2] Thus, it is clear from the classification of expenditure that there is a need to mark the expenditure into separate category of primary and upper-primary education to find out how much of the budget resources of the education department are used for primary education. If we are interested to examine the elementary education (this is referred to as primary education in the budget) of the constitutionally obligatory age group of 6-14, the distinction is not necessary.

In the following sections, an attempt is made to examine the structure of budgeted expenditure on education on the basis of the proportion of expenditure of the total education resources devoted to each level. The trends in the growth of the expenditure on elementary education with particular emphasis on primary education are analyzed with the help of the growth rates. Later, an attempt will also be made to find out the total expenditure made on different levels of education during the period 1956-57 to 1984-85, on the basis of the plan and non-plan actual expenditure. We have used the audited reports of the budgets of the Government of Andhra Pradesh, and therefore, the figures are provided upto 1984-85, though we have provided information on budget estimates upto 1986-87. The difference between the budget estimates and accounts has also been established. Finally, we will examine the difference between the expenditure on primary education as presented by the Directorate of School Education, and the budgeted expenditure. This is done to see the reliability of the data presented by the Directorate, for the purpose of analytical understanding of the financing of primary education in Andhra Pradesh.

The Structure of Budgetary Expenditure on Education

In this chapter, we will also examine the structural differences of the budgetary expenditure on education. As far as Andhra Pradesh is concerned, the structure of education has changed several times, prior to the reorganization of the state. After the reorganization of the state in 1956, the structure of education at the state level has been based on the national policy of education. The present structure of education at the state level follows the national policy of education. The present structure of education has come to stay as the 10+2+3 system (see Chapter 3). As we are concerned here with the structure of budgetary expenditure of education, it is appropriate to mention the structure of education. The structure of expenditure on education in general takes into account how it incurred on different activities of the educational process such as salaries of the teachers, expenditure on capital items, etc. This has already been explained in the previous chapter. But, when we are concerned with the budgetary expenditure on education, the structure implies the expenditure made on different levels of education. It is only in this context, that the structure of budgetary expenditure on education is examined here.

Expenditure on different levels of education, and the structure of budgetary expenditure on different levels of education is provided in the Table 6.1. The table indicates the proportion of

Table 6.1

Structure of Budgetary Expenditure on Education in Percentage (Budget Accounts)

Year	*Elementary*	*Secondary*	*Special*	*Pre-University*	*University and Other Higher Education*	*Technical*	*General (All Others)*	*Total*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1956-57	58.43	14.51	7.31	-	10.51	-	9.24	100.00
1957-58	54.53	19.46	5.99	-	13.46	-	6.56	100.00
1958-59	49.74	19.21	10.30	-	14.26	-	6.49	100.00
1959-60	51.50	21.21	9.54	-	11.94	-	5.81	100.00
1960-61	48.71	24.98	11.17	-	9.46	-	5.68	100.00
1961-62	42.50	25.98	9.09	-	18.49	-	3.94	100.00
1962-63	43.53	26.99	9.98	-	14.93	-	4.57	100.00
1963-64	40.71	33.83	10.65	-	10.13	-	4.68	100.00
1964-65	40.40	34.31	5.36	-	9.11	4.53	6.29	100.00

Contd...

Contd...

1965-66	41.91	30.00	5.88	-	10.08	4.54	7.59	100.00
1966-67	42.94	31.53	5.04	-	9.45	4.30	6.74	100.00
1967-68	41.53	33.23	3.93	-	11.53	4.31	5.47	100.00
1968-69	42.83	34.25	2.87	-	11.01	3.80	5.24	100.00
1969-70	40.10	34.85	2.80	-	13.46	3.64	5.15	100.00
1970-71	44.64	34.19	2.49	-	10.38	3.48	4.82	100.00
1971-72	43.92	32.19	1.99	-	14.26	3.17	4.47	100.00
1972-73	42.17	31.85	2.26	-	16.67	2.64	4.41	100.00
1973-74	42.93	29.59	2.14	-	18.79	2.19	4.36	100.00
1974-75	42.73	32.16	0.76	4.53	14.19	3.21	2.42	100.00
1975-76	44.58	31.68	0.56	4.82	12.85	3.08	2.43	100.00
1976-77	44.78	30.27	0.50	4.82	14.40	2.96	2.27	100.00
1977-78	43.91	29.50	0.45	5.06	14.80	3.00	3.28	100.00
1978-79	43.22	28.88	0.39	5.25	15.13	3.04	4.09	100.00
1979-80	43.66	29.54	0.80	5.73	14.95	3.24	2.08	100.00
1980-81	43.85	28.96	0.76	5.78	13.64	3.08	3.93	100.00
1981-82	43.07	29.17	0.89	6.06	14.02	2.94	3.85	100.00
1982-83	46.85	27.64	0.80	5.97	13.46	2.47	2.81	100.00
1983-84	48.36	26.28	0.76	5.92	12.72	2.73	3.23	100.00
1984-85	46.89	27.93	1.01	6.16	13.69	2.32	2.00	100.00
1985-86	45.92	28.35	-	-	20.60	-	5.13	100.00

Source: *Budget Accounts*, Government of Andhra Pradesh, for various years.

expenditure made on each level of education, over a period of 30 years from 1956-57 to 1985-86. The proportion of budgetary expenditure made on elementary education was 58.43 per cent in 1956-57, and the amount declined to 48.71 per cent in 1960-61 and it further declined to 40.10 in 1969-70. The proportion somehow, remained in the range of 42 to 43 per cent during the 15 years. It is interesting that the proportion of expenditure on elementary education has remained almost less than 50 per cent at the end of each decade, though there are variations in between.

Secondary education accounted for 14.51 per cent of budgetary funds of the education department in 1956-57, which increased to 19.46 per cent the very next year. The amount had further increased to 34.31 per cent in 1964-65. This proportion remained around 30 per cent upto the year 1976-77, and started declining thereafter. The proportion of expenditure on secondary education is found to be less than the expenditure that is devoted to the constitutional obligatory elementary education.

Higher education in the state comes in the post-secondary education. It is also known as collegiate or university level education. Before the introduction of the intermediate level of +2 stage of education in the state, the category of higher education came immediately after the secondary education category. The intermediate or pre-university level education was introduced in 1969-70, and a provision for this level of education was separately made in the budget from the year 1973-74 onwards. Strictly speaking, this level also comes under higher education. The budgetary provision for higher education (except +2) was 10.51 per cent in 1956-57, and the same proportion has remained even in the year 1965-66. But, the amount has increased to 14.26 per cent in 1971-72, and again declined to 12.85 per cent in 1975-76. The proportion stands at 12 to 14 per cent of the total budget funds of the education department during the period 1976-77 to 1984-85, then it increased to 20.60 per cent in 1985-86.

There is no uniformity in the allocation of funds for special education. Special education is education for handicapped children adult education, adult education and other such types of education. It seems the allocations for this item is not rationally conceived, and the amount depends upon the expediency of the situation. The amount was found to be 7.31 per cent in 1956-57, and reached its all time maximum of 11.71 per cent in 1960-61, declining to 3.93 per cent in 1967-68. The amount has further declined to 0.56 per cent in 1975-76. It has not reached a proportion of even 1 per cent thereafter, and finally reached 1.01 per cent in 1984-85.

The budget provision for technical education was started in the year 1964-65. The proportion of amount devoted to technical education was 4.53 per cent in 1964-65, and it the same the next year. The amount has declined to 3.21 per cent after a decade in 1974-75. The proportion of budget funds devoted to this type of education has remained almost around 3 per cent thereafter, except in 1982-83 and 1984-85.

The budget resources allotted to education department includes the expenditure on the direction and inspection of the education process in the state. In column 8 we have shown the expenditure on all other items including direction and inspection. An amount of 9.24 per cent of total funds were allocated to this activity in 1956-57, and the amount declined the next year. It is because of the fact that the department was reorganized after the formation of the state in 1956-57, and therefore some activities were transferred to other departments. The amount declined to 3.94 per cent in 1961-62, and it has increased to 7.59 per cent in 1965-66. There is no uniformity in the rise or fall of the funds allocated to this department after 1974-75. The amount of funds devoted to this department has reached 2 per cent of the total funds in 1984-85, and it increased to 5.13 per cent in 1985-86. It seems the funds devoted to this department are spasmerratic in character, though the activities of the department appear to be constant over the years.

The allocation of budgetary resources to each level of education explained above, does not contain the expenditure made on some specific types of education and training controlled by non-education departments. The department of education is responsible for general education only. There are certain specific types of education, like medical education, agricultural education, etc., which are offered by other departments. But the department of education generally coordinates all types and levels of education in the state. Therefore, the budget allocation made on education by other departments, cannot be known through the budget allocations of the department of education. The total budgetary funds used for education and training at the state level need careful examination of the allocation and expenditure of each department of the state. There are as many as 21 departments in Andhra Pradesh which provide funds in their budget allocation to education and training.[3] Some departments provide training to their own personnel by maintaining their own educational institutes. The expenditure made on this segment of the activity of the department should come under education and training. However, we have not made a detailed survey of the expenditure on education and training, as the present study is concerned only with primary education of the 6-11 age group, and it is fully under the control of the education department.

Trends in the Growth of Budgeted Expenditure on Education

The provision of education by the state is recognized as an important activity of all the civilized nations. The research studies on the economic consequences of expenditure on education have convinced many countries to devote a reasonable proportion of their budgetary resources to education. It is now found that the expenditure on education is growing much faster than the national income. Even in the underdeveloped economies, the expenditure on education is growing at a rapid rate, than the expenditure on other welfare activities. Yet, the amounts are still insufficient to make the population, at least the adult population, literate. In the federal set up in India, education is largely dealt by the provincial government, though it is in the concurrent list. The resources for the development of education are mobilized by the state governments. The federal or central government gives grants only for the provision of primary education, and even the allocations made by the central government are not sufficient to meet the commitments of the state governments. There is another problem relating to the unbalanced growth of the expenditure on different levels of education. Economic theory suggests that more resources should be devoted to an activity which brings more marginal returns than to others, so that maximization of return from the investment or the maximization of welfare could be possible. The budgetary allocations for the education sector must also take into consideration the manpower requirements of the economy. It should be kept in mind that the growth rate of the outlays on education should at least match the growth rates in the allocations of other developmental activities. In order to examine this perspective, an attempt is made here to study the growth rates of budgeted expenditure on different levels of education in Andhra Pradesh for the period 1956-57 to 1984-85. The budgeted figures relate to budget accounts.

In Table 6.2, the budgeted expenditure on all levels of education, and the growth rates by different levels of education are provided. The total budgetary expenditure on education was Rs.680.60 lakhs in the year 1956-57. The amount has increased Rs.3303.75 lakhs in 1966-67, and after a decade, it has reached to Rs.13223.88 lakhs in 1976-77, indicating an increase of four times in a decade. The amount was further raised to Rs.34493 lakhs in 1982-83. The amount stands at Rs.53161.20 lakhs as per the current budget estimates of 1986-87. This is an increase of nearly one and half times after 1982-83.

The budgetary provision for elementary education was Rs. 397.67 lakhs in 1956-57, and it has constantly been increasing at 2.15 per cent during the second period. But, there was some decline in the Third Plan period, and the original rate was picked up again by the end of the Fourth Plan in terms of the absolute amounts, and the amount now stands at Rs.22064.16 lakhs in 1984-85. This accounts for Rs.21756.10 lakhs in 1986-87 estimates.

Table 6.2

Budgetary Expenditure on Education (Plan+Non-Plan) in Andhra Pradesh (Accounts)

(Rs. in lakhs)

Year	*Elementary*	*Secondary*	*Special*	*Pre-University*	*University and Other Higher Education*	*Technical*	*General (All Others)*	*Total*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1956-57	397.67	98.75	49.75	-	71.52	-	62.91	680.60
1957-58	572.08	204.13	62.86	-	141.19	-	68.87	1049.13
1958-59	638.17	246.46	132.12	-	183.00	-	83.33	1283.08
1959-60	794.74	327.36	147.23	-	184.27	-	89.60	1543.20
1960-61	854.82	438.32	196.10	-	165.94	-	99.70	1754.88
1961-62	906.46	554.00	193.97	-	394.38	-	84.01	2132.82
1962-63	958.59	594.36	219.74	-	328.74	-	100.88	2202.31
1963-64	942.75	783.41	246.75	-	234.68	-	108.43	2316.02
1964-65	1055.64	896.35	140.08	-	238.14	118.06	164.40	2612.67
1965-66	1160.83	830.81	162.85	-	279.05	125.83	210.18	2769.55
1966-67	1418.56	1041.56	166.42	-	312.32	142.27	222.62	3303.75
1967-68	1562.03	1249.53	147.69	-	433.65	162.17	205.71	3760.78
1968-69	1982.34	1585.41	132.86	-	509.68	176.15	242.42	4628.86
1969-70	2004.10	1742.06	139.77	-	672.79	181.83	257.24	4997.79
1970-71	2680.88	2053.26	149.34	-	623.36	209.78	289.37	6005.99
1971-72	2891.40	2118.92	131.08	-	938.70	208.93	294.53	6583.56
1972-73	2822.98	2132.35	151.37	-	1116.03	176.69	294.95	6694.37
1973-74	3704.91	2553.82	184.57	-	1621.27	188.63	376.45	8629.65
1974-75	3970.92	2988.48	70.62	420.94	1318.82	298.82	225.19	9293.79
1975-76	5175.62	3677.14	65.31	559.58	1492.16	357.59	281.34	11608.74
1976-77	5922.51	4003.82	65.84	637.01	1903.71	391.08	299.91	13223.88
1977-78	6569.75	4413.41	65.92	757.00	2214.86	449.04	491.46	14961.44

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1978-79	7217.00	4823.00	66.00	877.00	2526.00	507.00	683.00	16699.00
1979-80	8161.82	5522.23	150.02	1070.61	2793.19	605.86	388.59	18692.32
1980-81	10143.00	6699.00	176.00	1337.00	3156.00	712.00	907.00	23130.00
1981-82	12035.00	8150.00	248.00	1694.00	3917.00	823.00	1076.00	27943.00
1982-83	16160.00	9535.00	276.00	2059.00	4642.00	851.00	970.00	34493.00
1983-84	20861.00	11336.00	328.00	2552.00	5489.00	1180.00	1393.00	43139.00
1984-85	22064.16	13142.14	473.89	2899.37	6440.72	1094.18	942.56	47057.02
Growth Rates								
1956-57 to 1984-85	55.48	133.08	9.53	6.89	90.05	9.27	14.98	69.14
1956-57 to 1960-61 (During II Plan)	2.15	4.44	3.94	-	2.32	-	1.58	2.58
1961-62 to 1968-69 (During III & Annual Plans)	2.19	2.86	0.68	-	1.29	1.49	2.89	2.17
1969-70 to 1973-74 (During IV Plan)	1.85	1.47	1.32	-	2.41	1.04	1.46	1.72
1974-75 to 1979-80 (During V & Rolling Plans)	2.05	1.85	2.12	2.54	2.12	2.03	1.73	2.01
1980-81 to 1984-85 (During VI Plan)	2.17	1.96	2.69	2.17	2.04	1.54	1.04	2.03

Source: *Budget Accounts*, Government of Andhra Pradesh, for various years.

The expenditure on secondary education was Rs.98.75 lakhs in 1956-57 and reached Rs.1041.56 lakhs after a decade in 1966. The amount increased twelve-fold during 1966-67 to 1984-85, and the budget estimates for 1986-87 stands at Rs.15922.83 lakhs. It has nearly doubled its amount when compared to the year 1982-83. The rate of change in the case of university education is found to be very fast. At the time of the formation of the state an amount of Rs.71.52 lakhs was allocated in the budget for higher education. The amount has increased by four times in a decade. The increase in the allocations for higher education was more than 2 per cent during the Second Plan, and declined to around 1 per cent in the Third Plan and has again reached 2 per cent in the Fourth and Fifth Plan periods. It stands at Rs.7785.26 lakhs in 1986-87 budget estimates. There is no uniformity in the growth of budgetary funds for special education, and also for the direction and inspection activity of education department. An amount of Rs.118.06 lakhs were kept apart for technical education in 1964-65, and the amount has increased to Rs.298.82 lakhs in 1974-75, showing a two and half times increase in a decade. The amount devoted to this sector stands at Rs.1725.97 lakhs in 1986-87 budget estimates and the increase was nearly five times during 1975-76 to 1986-87.[4]

Slow Growth of Expenditure on Elementary Education

The budgeted expenditure on primary education, presented in Table 6.2, shows the trend for a period of three decades during 1956-57 to 1984-85. The growth rates of each level of education are also presented in the same table. It shows that elementary education has recorded the lowest growth rate (55.48 per cent) among the three levels of education in the state during the period of the study (except the heterogeneous items special and direction and inspection). It is found that pre-university or intermediate education has recorded the lowest growth rate (6.89 per cent) among all the items presented in the table. Next comes technical education. Even the growth rate of total expenditure on education (69.14 per cent) is found to be higher than that of primary education.

It is further observed that the rate of growth of expenditure on primary education is found to be higher during the formation of the state as compared to the Fourth or Fifth Plan periods. This trend seems to be discouraging in one respect, when it is compared with other levels of education, particularly with respect to university education. More details can be found in the Appendix Tables 6.1 and 6.2, where the growth rates are given by making the 1956-57 year and the first year of each plan as base year respectively. The growth rates show that elementary education is found to be given importance in 1970s and 1980s if the base year is taken as 1956-57. If the growth rates of plan periods are compared by making the first year of the plan as the base year, the Fourth Plan period and also the first three years of the Fifth Plan period are found to be very discouraging as far as elementary education is concerned. Higher education was given relatively greater importance during the Second Plan, and also in other plans except during 1961-62 to 1967-68.

This trend is responsible for the erosion in the quality of primary education which might have been responsible for the low rates of retention and literacy in the state of Andhra Pradesh. This can be better understood if we look at the slow growth of the expenditure in terms of the increase in student teacher ratio in Andhra Pradesh over the years. As the salaries of teachers constitute more than 90 per cent of the total expenditure on primary education, the slow rate of growth in the expenditure on primary education naturally affects the teacher intensity in primary education and thus the high student-teacher ratio. This calls for a rational policy of allocation of funds for primary education based on the growth of enrolments and the needs of primary education rather than on adhocism. The policy of the Government of Andhra Pradesh in this respect appears to be encouraging, as the government is now converting most of the single teacher schools in the state into plural schools by appointing an additional teacher in these schools with a consolidated pay of Rs.398 per month. This must have influenced the expenditure on primary education in recent years, particularly after 1985.

Total Budgeted Expenditure (Plan and Non-Plan) on Elementary Education

So far, we have examined the trends in the growth of expenditure on the basis of the non-plan expenditure. They indicate only a part of the expenditure. We need to examine the plan expenditure also to find out the total expenditure on elementary education. Because, the plan and non-plan expenditures go into the activities of the education in a particular financial year and therefore, they need to be combined to get the total expenditure. We have presented these figures in Table 6.3.

Table 6.3

Plan and Non-Plan Budgeted (Actuals) Expenditure on Education in Andhra Pradesh for Selected Years

(Rs. in lakhs)

S. No.	*Item*	*1956-57 total (plan + Non-plan)*	*1961-62*			*1966-67*		
			Plan	*Non-Plan*	*Total*	*Plan*	*Non-Plan*	*Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1.	Elementary	397.67	52.60 (5.80)	853.86 (94.20)	906.46 (100.00)	29.55 (2.08)	1389.02 (97.92)	1418.56 (100.00)
2.	Secondary	98.75	85.49 (15.43)	468.50 (84.57)	554.00 (100.00)	102.21 (9.81)	939.35 (90.19)	1041.56 (100.00)
3.	Special	49.75	36.13 (18.63)	157.84 (81.37)	193.97 (100.00)	13.64 (8.19)	152.79 (91.81)	166.43 (100.00)
4.	Pre-University	-	-	-	-	-	-	-
5.	University and Other Higher Education	71.52	31.28 (7.92)	363.10 (92.07)	394.38 (100.00)	31.10 (9.96)	281.22 (90.04)	312.32 (100.00)
6.	Technical	-	-	-	-	26.35 (18.52)	115.92 (81.48)	142.27 (100.00)
7.	General (All Others)	62.91	8.34 (9.93)	75.67 (90.07)	84.01 (100.00)	7.94 (3.57)	214.68 (96.43)	222.62 (100.00)
8.	Grand Total	680.60	213.84 (100.02)	1918.98 (89.98)	2132.82 (100.00)	210.78 (6.38)	3092.98 (93.62)	3303.75 (100.00)
9.	% of Elementary Education Expenditure to Total	58.43	24.60	44.50	42.50	14.01	44.91	42.94
10.	% of Variation between Budget Estimates and Accounts in Elementary Education	2.73	-	19.85	-	-	3.35	

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S. No.	Item	1971-72			1976-77		
		Plan	Non-Plan	Total	Plan	Non-Plan	Total
	1	9	10	11	12	13	14
1.	Elementary	126.55 (4.38)	2764.85 (95.62)	2891.40 (100.00)	212.86 (3.59)	5709.65 (96.41)	5922.51 (100.00)
2.	Secondary	81.37 (3.84)	2037.55 (96.16)	2118.92 (100.00)	79.63 (1.99)	3924.19 (98.01)	4003.82 (100.00)
3.	Special	6.11 (4.66)	124.97 (95.34)	131.08 (100.00)	5.75 (8.74)	60.09 (91.26)	65.84 (100.00)
4.	Pre-University	-	-	-	88.94 (13.96)	548.07 (86.04)	637.01 (100.00)
5.	University and Other Higher Education	140.93 (15.01)	797.77 (84.99)	938.70 (100.00)	144.50 (7.59)	1759.21 (92.41)	1903.71 (100.00)
6.	Technical	18.39 (8.80)	190.54 (91.20)	208.93 (100.00)	24.76 (6.33)	366.32 (93.67)	391.08 (100.00)
7.	General (All Others)	47.00 (15.96)	247.53 (84.04)	294.53 (100.00)	41.77 (13.93)	258.14 (86.07)	299.91 (100.00)
8.	Grand Total	420.35 (6.38)	6163.22 (93.62)	6583.56 (100.00)	598.21 (4.52)	12625.67 (95.48)	13223.88 (100.00)
9.	% of Elementary Education Expenditure to Total	30.10	44.86	43.92	35.58	45.22	44.79
10.	% of Variation between Budget Estimates and Accounts in Elementary Education	-	9.85	-	-	13.65	-

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S. No.	*Item*	*1979-80*			*1984-85*		
		Plan	*Non-Plan*	*Total*	*Plan*	*Non-Plan*	*Total*
	1	*15*	*16*	*17*	*18*	*19*	*20*
1.	Elementary	201.18 (2.46)	7960.64 (97.54)	8161.82 (100.00)	3354.88 (15.20)	18709.28 (84.80)	22064.16 (100.00)
2.	Secondary	52.71 (0.95)	5469.52 (99.05)	5522.23 (100.00)	608.81 (4.63)	12533.33 (95.37)	13142.14 (100.00)
3.	Special	75.73 (50.48)	74.29 (49.52)	150.02 (100.00)	3075.56 (64.90)	166.33 (35.10)	473.89 (100.00)
4.	Pre-University	89.46 (8.36)	981.15 (91.64)	1070.61 (100.00)	598.92 (20.66)	2300.45 (79.34)	2899.37 (100.00)
5.	University and Other Higher Education	137.09 (4.91)	2656.10 (95.09)	2793.19 (100.00)	596.39 (100.00)	5844.33 (90.74)	6440.72 (100.00)
6.	Technical	37.95 (6.26)	567.91 (93.74)	605.86 (100.00)	195.61 (17.88)	898.57 (82.12)	1094.18 (100.00)
7.	General (All Others)	20.24 (5.21)	368.35 (94.79)	388.59 (100.00)	247.82 (26.30)	694.74 (73.70)	942.56 (100.00)
8.	Grand Total	614.36 (3.29)	18077.96 (96.71)	18692.32 (100.00)	5909.99 (12.56)	41147.03 (87.44)	47057.02 (100.00)
9.	% of Elementary Education Expenditure to Total	32.75	44.03	43.66	56.77	45.47	46.89
10.	% of Variation between Budget Estimates and Accounts in Elementary Education	-	0.98	-	-	-5.45*	

* Relates to 1985-86.

Note: Figures in brackets indicate percentage to the total.

Source: *Finance Accounts* for various years, Government of Andhra Pradesh.

In Table 6.3 the budgeted actual expenditure on different levels of education under non-plan and plan expenditure is provided. It may be noted that the actual expenditure on education relates to the audited accounts of the preceding year. Therefore, the figures indicate the real budgeted expenditure on education, during the year noted in the table. An amount of Rs.397.67 lakhs was spent on elementary education in 1956-57. The figures for non-plan and plan expenditure were not available for the year 1956-57. The total amount of expenditure on elementary education increased to Rs.906.46 lakhs by 1961-62. It further increased to Rs.1418.57 lakhs in 1966-67 to Rs.5922.51 lakhs in 1976-77 and to Rs.22064.16 lakhs in 1984-85.

The expenditure on secondary education, university and technical education has also been increasing in every quinquennial period as seen from the Table 6.3. But the expenditure on special education has not shown any such trend. It may be noted here that the actual expenditure on all levels of education is found to be more than the budget estimates as compared to the budget estimates presented in Table 6.3.

The table also explains the proportion of plan expenditure to the total expenditure. It is found that the plan expenditure on all education has continuously declined from 10.02 per cent in 1961-62 to 3.29 per cent in 1979-80.

The break-up of plan expenditure by level of education further indicates that elementary education was given 5.80 per cent in 1961-62, and it declined to 2.08 per cent in 1966-67. The proportion has, however, increased to 4.38 per cent in 1971-72 and again decreased to 3.59 per cent in 1976-77 and has further reduced to 2.46 per cent in 1979-80. This shows that almost the entire expenditure on primary education is met from non-plan budget resources in the state of Andhra Pradesh.

We have also estimated the proportion of expenditure on elementary education to the total expenditure on education, for selected years and presented in the same table. It shows that the proportion of non-plan actual expenditure on primary education has always been higher than that of the proportion of non-plan budget estimates of primary education. However, the proportion of expenditure on elementary education has declined over the period of the study. The same trend has also been observed in the case of budget estimates. It is found that the proportion of non-plan actual expenditure on primary education was 58.43 per cent in 1956-57, and it has come down sharply to 44.50 per cent in 1961-62, and the same proportion has been maintained during the years 1966-67 and 1971-72. However, there is a slight improvement in the year 1976-77, as it has increased to 45.22 per cent, but it has reached its original proportion in 1979-80, when it reached 44.03 per cent.

Difference between Actuals and Estimates

A more interesting picture will emerge when we compare the actual expenditure with that of the budget estimates as far as primary education is concerned. It is observed that the actual expenditure in 1956-57 is 2.73 per cent more than the budget estimates in non-plan revenue account. The variation has substantially increased in 1961-62, where the amount of increase in actual expenditure over the budget estimates is found to be 19.85 per cent. The variation has declined to 3.35 per cent in 1966-67 and again rose to 9.85 per cent in 1971-72 and to 13.65 per cent in 1976-77. The percentage of variation however declined to an all time low of 0.98 per cent in 1979-80, and there was surplus in the year 1984-85. This shows that there is no systematic relationship between the budget estimates and the actual expenditure on primary education. It is strikingly clear from the per cent of variations which has been increasing and declining over the years without any trend.

Expenditure on Primary Vs. Upper-Primary Education

The budgeted expenditure on education, either in the budget estimates prepared by the Finance and Planning Department of the Government of Andhra Pradesh, or in the audited accounts presented by the government in finance accounts, does not make a distinction between primary education and upper-primary education. As our study is basically concerned with five years schooling and primary education, we have tried to make a distinction between primary and upper-primary education. In order to find out the expenditure separately for primary and upper-primary education, we have used the enrolment ratio of each level to the total enrolment in elementary education, the stage which constitutes the sum of the enrolment of the two. As we have already presented data on enrolment of children in primary and upper-primary separately in Chapter 3, we have used the same figures to estimate the ratios. The ratios have been used to find out the expenditure on each level separately under an assumption. We have assumed that the enrolment ratios reflect the expenditure ratios, and there is no difference between the expenditure per pupil between primary and upper-primary education so that the ratios do really reflect their differences in expenditure. We know the limitations of this assumptions. But, as there is no alternative to mark out the budget figures separately, this simple method has been applied to find out the actual expenditure that is devoted to five years duration of primary education in Andhra Pradesh. The estimated figures are presented in Table 6.4.

It can also be seen from the Table how the expenditure on primary education and upper-primary education is allocated to different managements of the school education. It is observed that a maximum amount of expenditure on primary, and even upper-primary education, is spent through the local bodies of the Panchayat Raj, as this segment of the education has been transferred to Panchayat Raj, ever since the community development programme has been introduced in the state of Andhra Pradesh in the late 1950s.

Table 6.4

Budgeted (Actual) Expenditure on Primary and Upper-Primary Education in Andhra Pradesh for Selected Years (Estimates)

(Rs. in lakhs)

S. No.	*Item*	*1956-57 Total (Plan + Non-Plan)*	*1961-62*			*1966-67*		
			Plan	*Non-Plan*	*Total*	*Plan*	*Non-Plan*	*Total*
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1.	Government Primary Schools	49.66	2.03	77.10	79.13	3.20	69.21	72.41
2.	Direct Grants to Non-Government Primary Schools	200.23	4.14	60.60	64.74	1.36	144.25	115.61
3.	Grants to Local Bodies for Primary Education	102.06	40.09	613.28	653.37	20.64	1001.29	1021.93
4.	Others, etc., for Primary Education		-	-	-	-	-	-
5.	Government Upper-Primary Schools	6.45	0.28	10.56	10.84	0.55	11.93	12.48
6.	Direct Grants to Non-Government Upper-Primary Schools	26.00	0.57	8.30	8.87	0.23	19.70	19.93
7.	Grants to Local Bodies for Upper-Primary Education	13.25	5.49	84.01	89.50	3.56	172.64	176.20
8.	Others, etc., for Upper-Primary Education		-	-	-	-	-	-
A.	Total Expenditure on Primary Education only (Excluding Upper-Primary)	351.95	46.26	750.98	797.24	25.20	1124.75	1209.95
B.	Proportion of Expenditure on Primary Education to Total Expenditure on Education (Accounts)	51.71	21.63	39.13	37.38	11.95	38.30	36.62

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S. No.	*Item*	*1971-72*			*1976-77*		
		Plant	*Non-Plan*	*Total*	*Plan*	*Non-Plan*	*Total*
	1	*9*	*10*	*11*	*12*	*13*	*14*
1.	Government Primary Schools	19.43	136.31	155.74	14.40	270.03	284.43
2.	Direct Grants to Non-Government Primary Schools	4.98	203.34	208.32	10.15	398.66	408.51
3.	Grants to Local Bodies for Primary Education	85.91	2070.73	2156.64	133.34	4093.73	4227.07
4.	Others, etc., for Primary Education		-	-	25.40	154.22	179.62
5.	Government Upper-Primary Schools	2.86	20.05	22.91	2.32	43.55	45.87
6.	Direct Grants to Non-Government Upper-Primary Schools	0.73	29.90	30.63	1.64	64.30	65.94
7.	Grants to Local Bodies for Upper-Primary Education	12.63	304.52	317.15	21.51	660.28	681.79
8.	Others, etc. for Upper-Primary Education		-	-	4.10	24.87	28.97
A.	Total Expenditure on Primary Education only (Excluding Upper-Primary)	110.32	2410.38	2520.70	183.29	4916.64	5099.93
B.	Proportion of Expenditure on Primary Education to Total Expenditure on Education (Accounts)	26.24	39.11	38.29	30.64	38.94	38.57

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S. No.	*Item*	*1979-80*			*1984-85*		
		Plant	*Non-Plan*	*Total*	*Plan*	*Non-Plan*	*Total*
	1	*15*	*16*	*17*	*18*	*19*	*20*
1.	Government Primary Schools	22.76	382.32	405.07	29.95	627.27	657.22
2.	Direct Grants to Non-Government Primary Schools	114.01	823.84	937.84	4.30	1122.37	1126.67
3.	Grants to Local Bodies for Primary Education	16.33	5318.71	5335.05	726.72	11757.83	12484.55
4.	Others, etc. for Primary Education	18.05	247.61	265.66	1723.65	349.61	2073.26
5.	Government Upper-Primary Schools	3.99	67.07	71.06	10.49	219.36	229.85
6.	Direct Grants to Non-Government Upper-Primary Schools	20.00	144.53	164.53	1.51	393.12	394.63
7.	Grants to Local Bodies for Upper-Primary Education	2.86	933.11	935.97	254.54	4118.26	4372.80
8.	Others, etc. for Upper-Primary Education	3.17	43.44	46.61	603.72	122.45	726.17
A.	Total Expenditure on Primary Education only (Excluding Upper-Primary)	171.15	6772.47	6943.62	2484.62	13857.08	16341.70
B.	Proportion of Expenditure on Primary Education to Total Expenditure on Education (Accounts)	27.86	37.46	37.15	42.04	33.68	34.73

Source: Finance Accounts for various years, Government of Andhra Pradesh.

It is interesting to observe that the revised estimates of expenditure on primary education is found at Rs.351.95 lakhs in 1956-57, which is only 88.50 per cent of the expenditure that is actually shown as expenditure on primary education under the budget estimates of elementary education in the state. This amount has increased to Rs.2520.71 lakhs in 1971-72 which is 87.18 per cent of primary education. The amount has further increased to Rs.6943.62 in 1979-80 constituting 85.07 per cent and to Rs.1634.70 lakhs in 1984-85, and the proportion has declined to 74.06 per cent of primary education as shown in the budget accounts of the state of Andhra Pradesh. Therefore, the actual expenditure on the primary education was not made available to the policy makers, who make their estimates just on the basis of the elementary education, but not on the basis of the actual expenditure made on primary education. This may be one of the reasons for the irrational and erratic character of the budgeted expenditure on primary education.

We have also estimated the proportion of budgetary actual expenditure on primary education to the total actual expenditure on education in the state and presented the same in Table 6.4. It is found that 51.71 per cent of the total expenditure was used on primary education in 1956-57. The amount has come down, both in the plan expenditure, and also in non-plan expenditure, by the year 1961-62. Therefore, the proportion has remained at 37.38 per cent of the total budgetary expenditure in 1961-62. It is, however, very interesting to see that the proportion was around 37 to 38 per cent in 1979-80. By and large, there is some consistency in the actual expenditure on primary education, in terms of our revised estimates, that is generally found in the case of the budget estimates as presented in Table 6.1. This trend seems to indicate that the policy of the government has been devised in such a way that the amount of expenditure devoted to primary education should not exceed 38 per cent of the total education budget. It may also be interpreted that while calculating the financial requirements of primary education, enough attention has not been paid to the physical and demographic changes that have been taking place in the State. It also shows the fact that the budget estimates do not really indicate the increase in the financial resources in the case of primary education, and whatever trends that are seen in terms of proportions and growth rates, they are only the superficial aspects of the financial figures that are presented in the budgets. But, in fact, what is actually taking shape in the internal management of the expenditure on primary education can be found only with reference to the actual expenditure, that is made on the five-year primary education in the state. This can be observed and analyzed only when we get the real amounts that are spent on primary education. The budgeted figures do not really indicate any systematic process of financing of primary education, as they contain expenditure on both primary and upper-primary. Therefore, it is always better, to rely on the data supplied by the Central Ministry of Education or the Directorate of School Education as far as the expenditure figures relating to the primary education are concerned.

This fact is also corroborated in our analysis of the structure of expenditure in the previous chapter, based on the data supplied by the above mentioned sources. It may be noted that the adjusted budget accounts of primary education are found to be very close to the expenditure figure, presented in the previous chapter.

However, both the sources of data do indicate that the expenditure on primary education has been declining as compared to other levels of education in Andhra Pradesh.

Decline in Expenditure on Primary Education in Andhra Pradesh as Compared to Other States

The decline in the expenditure on primary education in the state of Andhra Pradesh is found to be much faster than in other states, particularly the neighbouring states of Tamilnadu, Karnataka, Maharashtra, etc. The data on expenditure on education as a percentage of total expenditure on revenue account, and the proportion of primary education expenditure to total budgeted expenditure on education for selected states are presented in Table 6.5.

Table 6.5

Percentage of Budgeted Expenditure on Education to the Total Budget (Revenue Account) for Selected States in India

S. No.	*State*	*All levels of Education*			*% of Expenditure on Primary Education to Total Education Expenditure*		
		1977-78[1]	*1980-81*[2]	*1983-84*[3]	*1977-78*[1]	*1980-81*[2]	*1981-82*[3]
	1	*2*	*3*	*4*	*5*	*6*	*7*
1.	Andhra Pradesh	24.9	24.5	23.2	43.7	43.7	39.8
2.	Tamil Nadu	29.3	23.7	26.0	48.5	47.7	48.2
3.	Karnataka	25.9	21.0	21.1	54.9	54.2	54.1
4.	Kerala	38.7	35.6	36.2	55.4	55.4	55.6
5.	Orissa	23.0	22.4	22.0	38.5	41.5	40.8
6.	Maharashtra	23.7	23.0	21.3	44.5	46.8	46.9
7.	Madhya Pradesh	25.8	20.8	18.2	46.6	46.8	46.3
8.	Punjab	28.1	27.3	26.7	35.9	36.2	34.0
9.	West Bengal	24.5	25.1	26.5	40.9	39.0	38.8
10.	Uttar Pradesh	27.1	21.3	21.9	47.2	50.1	51.6
	India	26.7	23.9	24.0	47.0	47.5	

Note: (1) Accounts; (2) Revised Estimates; (3) Budget Estimates

Sources: 1. Government of India, Ministry of Education, *A Hand Book of Educational and Allied Statistics*, New Delhi, 1983.

2. Government of Andhra Pradesh, *Hand Book of Statistics, 1984-85.*

It may be observed from the Table 6.5 that the overall budgeted expenditure on total education has been declining during the period 1977-78 and 1983-84. The same trend is also observed in the case of all its neighbouring states. The same is the case with most of the states in the country, except West Bengal, where the expenditure on education has been slowly increasing. It is interesting to see, however, that the expenditure on education constitutes more than 20 per cent of the total budget resources in all most all the states except Madhya Pradesh in 1983-84.

As far as primary education is concerned, Andhra Pradesh is the only state in South India, where there is a sharp decline in the budgetary expenditure on primary education in 1977-78 to 39.80 per cent in 1981-82. In all the remaining states, namely, Tamilnadu, Karnataka and Kerala, it has either increased or remained almost stable. The decline in the proportion of expenditure on primary education is observed in states like Punjab and West Bengal. But that is limited to around 1 per cent only. This may be one of the reasons for the low levels of retention, and also low levels of literacy, in the state of Andhra Pradesh. Therefore, proper budgetary allocations for primary education should be based on the demographic, physical and related education criteria for a meaningful resource allocation.

Conclusion

The trends in the growth of budgeted expenditure on education have been analyzed in this chapter to assess the budgetary transactions of the government in the case of education in general, and primary education in particular. It is found that the budget estimates for primary education as a proportion to total education, have been declining as compared to higher levels of education. Even the growth rates of different levels of education suggest that primary education has recorded the lowest growth rate during the period 1956-57 to 1984-85. We have also examined the actual expenditure on education and primary education which went into the expenditure. We observed that the actual expenditure has always been higher than that proposed by the budget estimates.

The variation between budget estimates and actual expenditure on primary education is found to be in the range of 0.98 to

19.85 per cent, indicating the lack of relationship between the two. An attempt has also been made to find out the total expenditure consisting of plan and non-plan expenditure. It is found that the plan expenditure constitutes less than 6 per cent of the total expenditure on primary education, and even that amount has been declining over the years. The more interesting aspect of the study of the budgetary expenditure on primary education is that, a distinction between 6-11 years age group primary education and 11-13 years age group upper-primary education is not made in the budget transactions which might have concealed the actual trends in the growth of expenditure on primary education. It appears that the government has restricted the expenditure on primary education to around 38 per cent, a per cent which has been consistent over the years, in the actual expenditure on primary education in the state. But, one important fact that has emerged from the study is, that the proportion of expenditure on primary education has been declining. It is further observed that the decline in expenditure on primary education is specific only to Andhra Pradesh, when compared to the neighbouring states.

APPENDIX

Table 6.1

Growth Rates of Expenditure over a Period of Time

Year	*Elementary*	*Secondary*	*Special*	*Pre-University*	*University & Other Higher Education*	*Technical*	*General (All Others)*	*Total*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1956-57	1	1	1	1	1	1	1	1
1957-58	1.4386	2.0671	1.2635	-	1.9741	-	1.0947	1.5415
1958-59	1.6048	2.4960	2.6557	-	2.5587	-	1.3246	1.8852
1959-60	1.9985	3.3150	2.9594	-	2.5765	-	1.4245	2.2674
1960-61	2.1496	4.4387	3.9417	-	2.3202	-	1.5848	2.5784
1961-62	2.2794	5.6101	3.8990	-	5.5143	-	1.3354	3.1337
1962-63	2.4105	6.0188	4.4169	-	4.5965	-	1.6036	3.2210
1963-64	2.3707	7.9332	4.9598	-	3.2813	-	1.7236	3.3873
1964-65	2.6546	9.0769	2.8157	-	3.3297	1	2.6133	3.8212
1965-66	2.9191	8.4133	3.2734	-	3.9017	1.0658	3.3410	4.0506
1966-67	3.5671	10.5474	3.3451	-	4.3669	1.2051	3.5387	4.8319
1967-68	3.9280	12.6535	3.9686	-	6.0633	1.3736	3.2699	5.5004

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1968-69	4.9850	16.0548	2.6705	-	7.1264	1.4920	3.8534	6.7700
1969-70	5.0396	17.6411	2.8094	-	9.4070	1.5401	4.0890	7.3096
1970-71	6.7415	20.7925	3.0018	-	8.7159	1.7769	4.5997	8.7841
1971-72	7.2709	21.4574	2.6348	-	13.1250	1.7697	4.6818	9.6288
1972-73	7.0988	21.5934	3.0426	-	15.6044	1.4966	4.6884	9.7909
1973-74	9.3165	25.8615	3.7099	-	22.6689	1.5977	5.9839	12.6213
1974-75	9.9855	30.2631	1.4195	1	18.4399	2.5311	3.5795	13.5927
1975-76	13.0149	37.2369	1.3128	1.3293	20.8635	3.0289	4.4721	16.9785
1976-77	14.8930	40.5450	1.3234	1.5233	26.6179	3.7125	4.7673	19.4297
1977-78	16.5206	44.6928	1.3250	1.7984	30.9684	3.8035	7.8121	21.9827
1978-79	18.1482	48.8405	1.3266	2.0834	35.3188	4.2944	10.8568	24.5357
1979-80	20.5241	55.9213	3.0155	2.5419	39.0547	5.1318	6.1769	27.4645
1980-81	25.5061	67.8380	3.5377	3.1762	44.1275	6.0308	14.4174	33.9847
1981-82	30.2638	82.5316	4.9849	4.0243	54.7679	6.9710	17.1038	31.0564
1982-83	40.6367	96.5570	5.5477	4.8414	64.9049	7.2082	15.4188	50.6802
1983-84	52.4581	114.7950	6.5930	6.0626	76.7478	9.9949	22.1427	63.3838
1984-85	55.4832	133.0850	9.5254	6.8878	80.0548	9.2680	14.9827	69.1405

Table 6.2

Growth Rates of Expenditure During Plan Periods

Year	*Elementary*	*Secondary*	*Special*	*Pre-University*	*University & Other Higher Education*	*Technical*	*General (All Others)*	*Total*
1.	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*	*9.*
II PLAN								
1956-57	1	1	1	-	1	-	1	1
1957-58	1.4386	2.0671	1.2635	-	1.9741	-	1.0947	1.5415
1958-59	1.6048	2.4958	2.6575	-	2.5587	-	1.3246	1.8852
1959-60	1.9985	3.3150	2.9594	-	2.5765	-	1.4243	2.2674
1960-61	2.1496	4.4387	3.9417	-	2.3202	-	1.5848	2.5784
III ANNUAL PLANS								
1961-62	1	1	1	-	1	-	1	1
1962-63	1.0575	1.0728	1.1329	-	1.8336	-	1.2009	1.0326
1963-64	1.0400	1.4141	1.2721	-	0.5951	-	1.2907	1.0859
1964-65	1.1646	1.6180	0.7222	-	0.6038	1	1.9570	1.2250
1965-66	1.2806	1.4997	0.8396	-	0.7076	1.0658	2.5018	1.2986
1966-67	1.5649	1.8801	0.8580	-	0.7919	1.2051	2.6499	1.5490
1967-68	1.7232	2.2554	0.7614	-	1.0996	1.3736	2.4476	1.7633
1968-69	2.1869	2.8618	0.6850	-	1.2924	1.4920	2.8856	2.1703

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IV PLAN								
1969-70	1	1	1	-	1	1	1	1
1970-71	1.3377	1.1786	1.0685	-	0.9271	1.1537	1.1249	1.2018
1971-72	1.4427	1.2163	0.9378	-	1.3952	1.1490	1.1450	1.3174
1972-73	1.4086	1.2240	1.0830	-	1.6588	0.9717	1.1466	1.3394
1973-74	1.8487	1.4660	1.3205	-	2.4098	1.0374	1.4634	1.7267
V ROLLING PLANS								
1974-75	1	1	1	1	1	1	1	1
1975-76	1.3034	1.2304	0.9248	1.3294	1.1314	1.1967	1.2493	1.2491
1976-77	1.4915	1.3398	0.9323	1.5133	1.4435	1.3088	1.3318	1.4229
1977-78	1.6545	1.4768	0.9334	1.7984	1.6794	1.5024	2.1827	1.6098
1978-79	1.8175	1.6139	0.9346	2.0834	1.9153	1.6967	3.0330	1.7968
1979-80	2.0554	1.8478	2.1243	2.5434	2.1179	2.0275	1.7256	2.0113
VI PLAN								
1980-81	1	1	1	1	1	1	1	1
1981-82	1.1865	1.2166	1.4091	1.2670	1.2411	1.1559	1.1863	1.2081
1982-83	1.5932	1.4233	1.5682	1.5400	1.4708	1.1952	1.0695	1.4913
1983-84	2.0567	1.6922	1.8636	1.9088	1.7392	1.6573	1.5358	1.8651
1984-85	2.1753	1.9618	2.6926	2.1686	2.0408	1.5368	1.0392	2.0345

Notes

1. Government of Andhra Pradesh, *Explanatory Memorandum on the Budget for 1986-87*, Hyderabad, 1986, p.96.
2. *Ibid.*
3. Chalam, K.S., *Trends in the Budgetary Expenditure on Education in Andhra Pradesh* (Mimeo), School of Economics, Andhra University, Waltair, 1984.
4. Government of Andhra Pradesh, *Budget Estimates, 1986-87*, 1987.

Chapter 7

Economies of Scale in the Operation of Primary Schools: A Case Study

Public expenditure on primary education in Andhra Pradesh had significantly increased from Rs.627.76 lakhs in 1956-57 to Rs.7598.82 lakhs in 1981-82, and the increase in student enrolment during this period was from 24.54 lakhs to 54.66 lakhs.* In view of the high amounts spent on primary education and their rapid growth, an attempt is made in this chapter to analyze the operation of scale economies in primary education in the state. But, the analysis of economies of scale requires the information on costs of education per schools at different size (enrolment) levels. It is difficult to conduct a survey on the schools at a state level. Therefore, we have undertaken a sample survey of some schools in Visakhapatnam district, as a representative of the state. The methodology adopted in undertaking the study has already been explained in Chapter 1.

The application of the economies of scale in education is based on the popular hypothesis that large undertakings will have the advantage of economies of scale. The average cost curve of a firm takes the form of 'U' shape, because of the operation of economies of scale in their production process which is due to the indivisibilities of inputs. The same theory can also be applied to an educational organization or system. Further, it is said that the "economies of size is one of the areas in which the efficiency of schools and schools systems can be improved. An economy of size is a decrease in the average of producing an item related to an increase in the production of that item."[1] It is generally found that the per student expenditure on education may decline as enrolment rises upto a point. Thus, large sized institutions will have the advantage of lower costs of operation because of the economies of scale, and may also indicate the efficiency of the system. The firm or institution is said to be efficient when it operates at the minimum point of the 'U' shaped average cost curve. Riew[2] has applied this method to find out the relationship between the schools' size and cost. In his statistical test, he has assumed a parabolic relationship between per pupil cost and enrolment. The relationship between cost and other independent variables is assumed to be linear. He has used six independent variables in his statistical test, and found that an enrolment of one pupil, holding the other variables constant, lowers average per pupil operating expenditures. Sharma[3] has tested the 'U' shape of the cost curve of the Indian universities for the year 1976-77. A similar study was also undertaken by Lakdawala and Shah for Gujarat.[4] They have used a quadratic function to test this hypothesis. In this type of analysis, the cross section data gives the minimum cost at a particular size of the school.[5] But no attempt seems to have been made to test the parabolic function in the case of primary education in Andhra Pradesh. The statistical test of the economies of scale does also indicate the efficiency of the system and structure of the institutions as given. An attempt is made in this study to examine the average unit costs of education with reference to the enrolment of each size of the school. We have selected four revenue mandals in Visakhapatnam district, including Visakhapatnam city, for this purpose. The data are presented in the first instance in class intervals of size of the enrolment in a school vis-a-vis the average cost per pupil. After examining the cost data, the operation of the economies of scale is tested with the following regression equation.

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* Expenditure figures are taken from Table 5.3

$Y_1 = a + bX_1 + CX^2_1$

Where

Y_1 = Average expenditure per student on primary education.

X_1 = Enrolment size of the school.

The same equation is used for testing the scale economies in all the four mandals of the district (the sample details have already been presented in Chapter 1).

The Size Effects of the Schools

We have selected the four mandals to represent a particular characteristic of the population, i.e., Payakaraopeta mandal is selected to represent the highest concentration of scheduled castes, Chidikada mandal represents the sparsely populated area, Chintapalli is in the tribal belt, and Visakhapatnam city represents the urban area. There are 37 schools in Payakaraopeta mandal, 16 schools are selected in Chidikada mandal, Chintapalli mandal was represented by 18 schools and in the Visakhapatnam city, we have carefully selected 18 municipal schools representing all corners of the city. Altogether, we have 89 schools in our sample. The details are given in the following sections.

We have tabulated the data to represent nine important items of expenditure, viz., salaries of teachers, salaries of non-teaching staff, common services, scholarships, building, vacant land, furniture, maps and teaching aids and books and stationery. The definition of each of the items are known by the title of the item except, common services. This item includes the expenditure on play-ground, library and other items which are common for all students. The cost of building per pupil is estimated by taking into consideration the value of the building spread over 40 years, the life span of buildings that are generally taken into consideration for school buildings in the state (see Grants-in-aid Code) and that amount is divided by the number of students in the school. Similarly, the cost of vacant land is calculated on the basis of the market value of the land in that particular village. In some of the schools, a lot of vacant land is acquired for playground and also for expansion. Therefore, while canvassing the school schedule to collect information, we have obtained information relating to the market value of the vacant lands, and this information is taken as a basis to calculate the cost per pupil. The expenditure on all other items are provided by the Head Master of each school. We have carefully followed the guidelines provided by Coombs and Hallack in estimating the unit costs.[6]

Payakaraopeta

In Table 7.1 the average cost per pupil in different enrolment size schools is given. It can be seen from the table that the salaries component per pupil is found to be in the range of 94.42 per cent to 98.60 per cent of the total cost. It is also found that the proportion of the cost of teachers is increasing with the size of the enrolment. There is no expenditure on scholarships and common services both in small and large size schools. However, expenditure on buildings is found in schools of all sizes. The highest amount of expenditure is found in the school with more than 501 enrolment, and the lowest is found in the 101-200 size schools. It shows that the optimum size of a school in a predominantly scheduled caste area is found to be in the range of 101-200 enrolment.

Chidikada

In sparsely populated areas like the Chidikada mandal, the teachers' component in the cost is found to be highest (92.58%) in the lower size schools and is the lowest (86.94%) in the large size schools (see Table 7.2). The expenditure on buildings and scholarships is found in all schools. This is a mandal where the

Table 7.1

Average Expenditure per Pupil on Primary Education by Items in Payakaraopeta Mandal

Enrolment Size of the School	*Salaries of Teachers*	*Salaries of Non-Teaching Staff*	*Common Services*	*Scholar-ships*	*Buildings*	*Vacant Land*	*Furniture*	*Maps and Teaching Aids*	*Books and Stationery*	*Total*	*Student-Teacher Ratio*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
0-100	324.87	-	-	-	17.19	1.26	0.14	0.09	0.49	344.04	42.32
Reported	-	-	-	-	-	6.93	0.21	0.17	2.32	9.63	-
	(94.42)				(5.00)	(0.36)	(0.04)	(0.03)	(0.15)	(100.00)	
101-200	233.94	-	3.97	0.35	8.02	0.51	0.23	0.22	0.18	247.42	66.33
Reported	-	-	12.62	4.77	-	1.39	0.27	0.31	0.63	19.99	-
	(94.54)		(1.60)	(0.15)	(3.24)	(0.20)	(0.10)	(0.09)	(0.08)	(100.00)	
201-300	279.09	-	5.65	1.56	4.27	1.69	0.32	0.29	0.51	293.38	57.86
Reported	-	-	6.87	3.46	-	2.86	0.39	0.37	1.12	15.07	-
	(95.11)		(1.92)	(0.54)	(1.46)	(0.58)	(0.11)	(0.10)	(0.18)	(100.00)	
301-400	295.99	-	-	1.90	3.46	-	0.16	-	6.07	307.58	57.25
Reported	-	-	-	-	-	-	-	-	-	-	-
	(96.22)			(0.62)	(1.12)		(0.06)		(1.98)	(100.00)	
401-500	296.36	-	4.55	-	4.12	-	-	-	0.90	305.93	50.56
Reported	-	-	-	-	-	-	-	-	-	-	-
	(96.86)		(1.49)		(1.35)				(0.30)	(100.00)	
501 & Above	377.07	-	-	-	3.00	-	0.43	0.41	1.46	382.37	43.75
Reported	-	-	-	-	-	-	-	-	-	-	-
	(98.60)				(0.78)		(0.12)	(0.11)	(0.39)	(100.00)	

Note: Figures in brackets indicate percentage to the total.

Table 7.2

Average Expenditure per Pupil on Primary Education by Items in Chidikada Mandal

Enrolment Size of the School	*Salaries of Teachers*	*Salaries of Non-Teaching Staff*	*Common Services*	*Scholarships*	*Buildings*	*Vacant Land*	*Furniture*	*Maps and Teaching Aids*	*Books and Stationery*	*Total*	*Student-Teacher Ratio*
1	2	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
0-100	334.63	-	2.04	0.22	21.88	2.04	0.55	0.01	-	361.37	35.34
Reported	- (92.58)	-	7.27 (0.57)	1.05 (0.06)	- (6.05)	24.69 (0.57)	- (0.16)	- (0.01)	-	33.01 (100.00)	-
101-200	233.47	-	4.59	3.33	9.99	15.08	0.39	0.23	-	267.08	74.09
Reported	- (87.40)	-	5.89 (1.72)	6.23 (1.25)	0 (3.74)	28.60 (5.65)	0.50 (0.15)	0.46 (0.09)	-	41.68 (100.00)	-
201-300	161.54	-	-	2.17	10.46	-	0.14	0.04	-	174.35	104.00
Reported	- (92.64)	-	-	- (1.25)	- (6.00)	-	- (0.08)	- (0.03)	-	- (100.00)	-
301 & Above	163.15	-	7.82	2.36	8.22	4.52	0.40	0.59	0.56	187.62	81.67
Reported	- (86.94)	-	- (4.16)	3.54 (1.26)	- (4.39)	6.80 (2.41)	0.59 (0.22)	- (0.32)	1.65 (0.30)	12.58 (100.00)	-

Note: Figures in brackets indicate percentage to the total.

large concentration of backward classes are reported. As is expected, the average cost is declining with the increase in the size of the enrolment upto 300. The cost has increased in the case of schools in the range of 301-400 enrolment. The optimum size in this region is therefore found to be in the range of 201-300, where the lowest average cost is found (Rs.174.35).

Chintapalli

There are more schools in the size of less than 100 enrolment in this mandal. There is not even a single school in the mandal where the enrolment is more than 200. It is understandable, because the population in the tribal belt is scattered round several forests and hillocks, and the establishment of schools in the remote areas is still very difficult. Therefore, we could identify schools in the two sizes as represented in Table 7.3. The teacher component is found to be higher in the relatively big schools (92.92 per cent) than in small schools (87.37 per cent) in Chintapalli mandal. The expenditure on scholarships is found in all schools. It is found that the average cost per child in a small school is more (Rs.494.97) in a school with less than 100 enrolment than the schools (Rs.418.31) which are found in the range of 101-200 enrolment. One may find that even in the tribal areas, an optimum school is found in schools in the range of 101-200. It is noticed that the teachers' intensity in the mandal in terms of the proportion of expenditure on salaries is less in the small schools (less than 100 enrolment). The student-teacher ratio is also found to be lower when compared to a bigger size school. This is quite contrary to the common belief that in small size schools, the teacher's salary component will be higher. The phenomenon of lower cost may be due to the prevalence of single teacher schools in the tribal areas. However, the optimum size in the tribal areas is also found in The range of 101-200 enrolment.

It is found that there are schools with more than 500 enrolment. The average expenditure per student on salaries of

Table 7.3

Average Expenditure per Pupil on Primary Education by Items in Chintapalli Mandal

Enrolment Size of the School	*Salaries of Teachers*	*Salaries of Non-Teaching Staff*	*Common Services*	*Scholarships*	*Buildings*	*Vacant Land*	*Furniture*	*Maps and Teaching Aids*	*Books and Stationery*	*Total*	*Student-Teacher Ratio*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
0-100	432.51	-	2.31	13.26	27.84	16.58	0.65	0.54	1.28	494.97	36.15
Reported	- (87.37)	-	10.67 (0.47)	20.12 (2.67)	37.79 (5.63)	22.23 (3.35)	0.74 (0.14)	0.81 (0.11)	2.26 (0.26)	94.62 (100.00)	-
101 & Above	388.75	-	-	5.57	17.90	5.53	0.56	-	-	418.31	44.00
Reported	- (92.92)	-	-	7.84 (1.34)	- (4.27)	7.78 (1.33)	0.78 (0.14)	-	-	16.40 (100.00)	

Note: Figures in brackets indicate percentage to the total.

teachers varies between different size schools. The highest proportion of (96 per cent) expenditure on teachers' salaries is found in the case of schools with 101-200 range of enrolment and the lowest is seen in the case of 401-500 range enrolment schools. The difference in the student-teacher ratio between these two sizes is around 10, but the difference in cost is around Rs.50. It is found that in all sizes of schools in the city, the same amount is spent on salaries of non-teaching staff, buildings, teaching aids and stationery. This is a significant difference between a city school and a rural school. It is very difficult however, to find out an optimum school in the city. The per student expenditure on primary education has not declined with the increase in enrolment. It is no doubt that the cost has declined from Rs.449.10, from the lowest size school to Rs.315.89 in the next higher size school. But in the immediate next higher size, the cost has again increased. There is a sudden fall in the average cost on the next highest size. Given the student-teacher ratio, the optimum size of a school in the city is found to be in the range of 500 and above enrolment. But, the student teacher ratio is abnormal (78.59 students per teacher) in these schools. If the student teacher ratio is to be kept in the reasonable limits of around 50, then the optimum schools can be found even in the city at 101-200 range enrolment.

Visakhapatnam City

In the city of Visakhapatnam there are schools of various sizes. The data are presented in Table 7.4.

The average cost structure of various sizes schools in the district of Visakhapatnam has shown that the optimum size school (given the student-teacher ratio in the range of 40-70) is found to be in the enrolment range of 101-200. There is also no systematic trend in the relationship between the size and the cost per student. In order to find out the relationship between the size and the cost, a regression analysis has been attempted.

Table 7.4

Average Expenditure per Pupil on Primary Education by Items in Visakhapatnam Municipal Schools

Enrolment Size of the School	*Salaries of Teachers*	*Salaries of Non-Teaching Staff*	*Common Services*	*Scholar-ships*	*Buildings*	*Vacant Land*	*Furniture*	*Maps and Teaching Aids*	*Books and Stationery*	*Total*	*Student-Teacher Ratio*
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
0-100	429.69	9.37	-	-	7.61	0.70	1.16	0.26	0.31	449.10	38.40
Reported	-	-	-	-	-	1.39	-	0.53	0.63	2.55	-
	(95.67)	(2.08)			(1.70)	(0.16)	(0.26)	(0.06)	(0.07)	(100.00)	
101-200	303.29	5.49	-	1.10	3.66	0.83	0.21	0.07	1.24	315.89	54.67
Reported	-	-	-	-	-	-	-	-	-	-	-
	(96.00)	(1.73)		(0.35)	(1.15)	(0.27)	(0.07)	(0.03)	(0.40)	(100.00)	
201-300	432.63	21.48	-	4.73	8.24	0.16	0.15	0.23	3.83	471.45	36.30
Reported	-	28.05	-	9.05	-	0.67	0.20	-	7.60	45.57	
	(91.75)	(4.55)		(1.01)	(1.74)	(0.04)	(0.04)	(0.05)	(0.82)	(100.00)	
301-400	197.56	6.84	-	7.43	4.30	0.60	0.35	0.18	0.37	217.63	86.15
Reported	-	-	-	19.43	-	1.47	-	-	0.87	21.77	-
	(90.76)	(3.14)		(3.42)	(1.98)	(0.28)	(0.16)	(0.09)	(0.17)	(100.00)	
401-500	253.14	19.36	-	2.79	6.62		0.18	0.19	0.40	282.68	64.77
Reported	-	-	-	4.22	-	-	-	-	1.21	5.43	-
	(89.53)	(6.84)		(0.99)	(2.35)		(0.07)	(0.07)	(0.15)	(100.00)	
501 & Above	200.74	5.13	-	11.40	2.24	0.23	0.18	0.13	2.38	222.43	78.59
Reported	-	6.80	-	-	-	0.44	-	-	3.15	10.39	-
	(90.23)	(2.31)		(5.13)	(0.01)	(0.11)	(0.08)	(0.06)	(1.07)	(100.00)	

Note: Figures in brackets indicate percentage to the total.

Economies of Scale in Primary Education

While explaining the method of estimation of economies of scale, Alain Mingat and Jee Peng Tan have indicated that the "economies or diseconomies of scale can be documented by relating to the unit costs of education in all schools or a sample of schools to the size of their enrolments. The schools in the sample must be at the same level of education."[7] The present analysis therefore, relates to primary education. However, there is a difference in the background of each school. That is why, we have distinguished four categories of schools. In this section, we shall provide the analysis of economies of scale to each category of schools separately.

We have also made some refinements to the data before it is used for the regression analysis. In the previous sections, it is observed that there is no uniformity in the data. Therefore, we have rearranged the data in regular class intervals of enrolment from 0-50 to 800-900 depending upon the size of the school. After presenting the cost data relating to each size of the school, an average cost per pupil for each range of the school is worked out by dividing the sum total of expenditure of all schools in that size by the number of schools fund in that range. Similarly, we have used only the mid points to indicate the average size of the school. The details are given in Appendix Table 7.1, 7.2, 7.3 and 7.4. The data are also represented in graphs (Figs. 7.1, 7.1A, 7.2, 7.2A, 7.3, 7.3A, 7.4 and 7.4A) to illustrate the behaviour of the average cost and total cost of primary education. The graphs show that except Chidikada, where the slope is as expected as per the observations, others do not indicate any such smooth curve. It can be seen from the Tables that there is no systematic trend of inverse relationship between enrolment size and the unit cost in Payakaraopeta mandal. But, there is an inverse relationship between these two variables in Chidikada. The condition in the case of Chintapalli and Visakhapatnam are not very succeptible for any comment. Therefore, we have made use of the parabolic function to test the scale economies in the

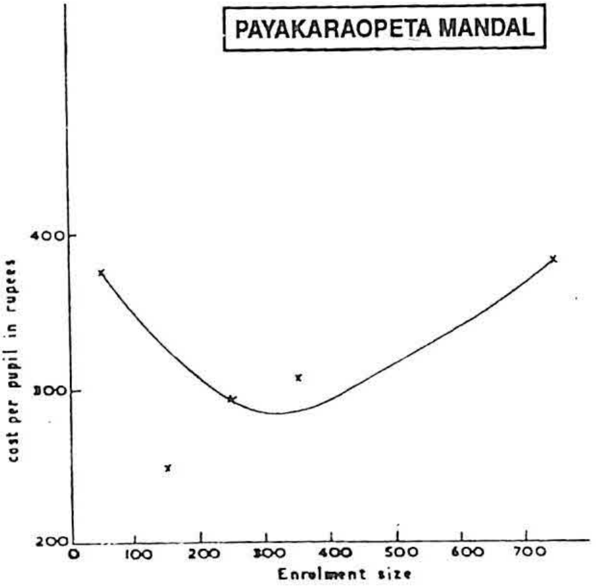

FIGURE 7.1
Unit Costs and Enrolment

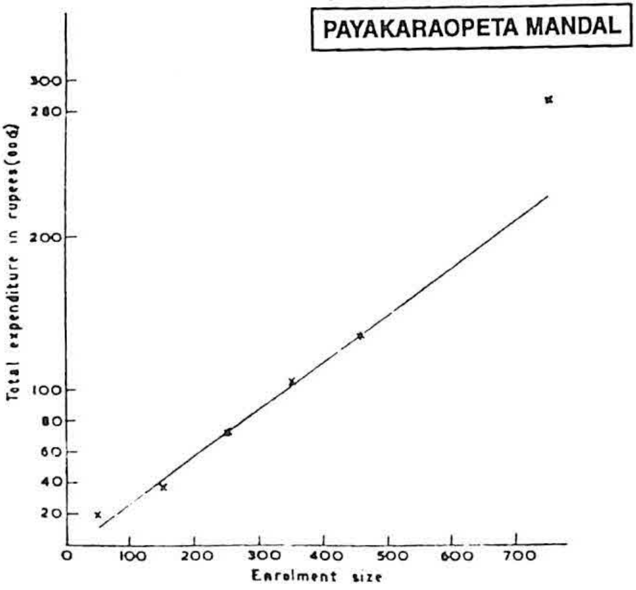

FIGURE 7.1A
Total Cost and Enrolment

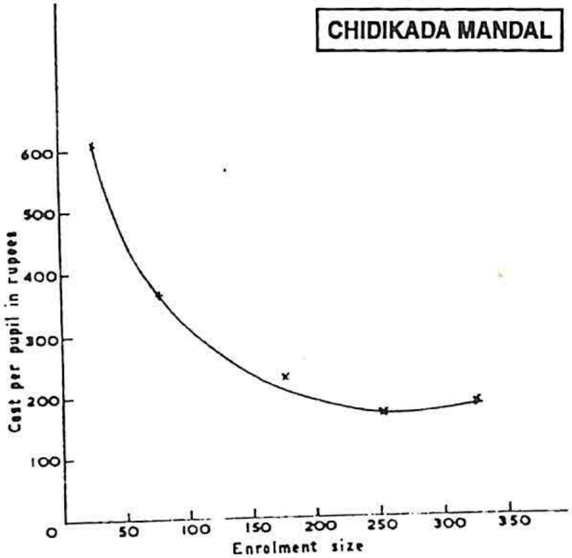

FIGURE 7.2
Unit Costs and Enrolment

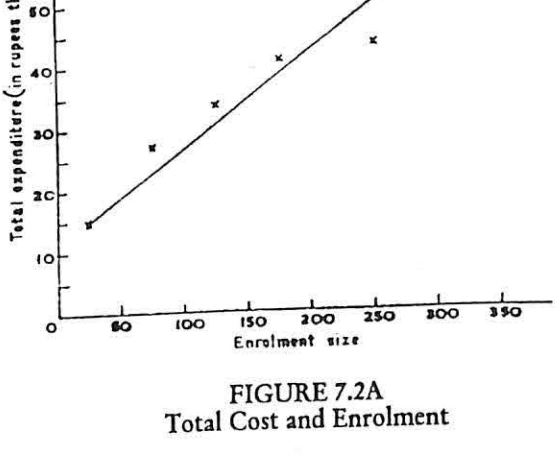

FIGURE 7.2A
Total Cost and Enrolment

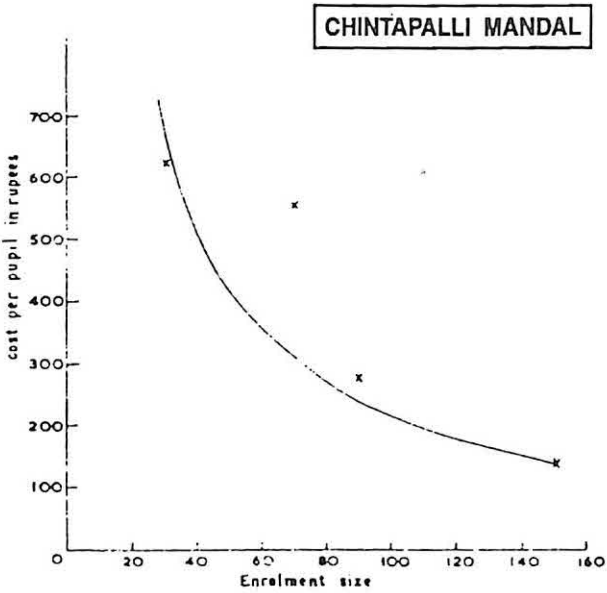

FIGURE 7.3
Unit Costs and Enrolment

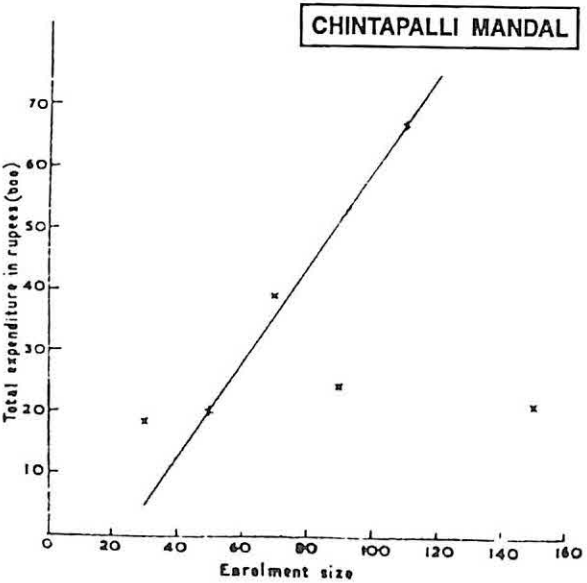

FIGURE 7.3A
Total Cost and Enrolment

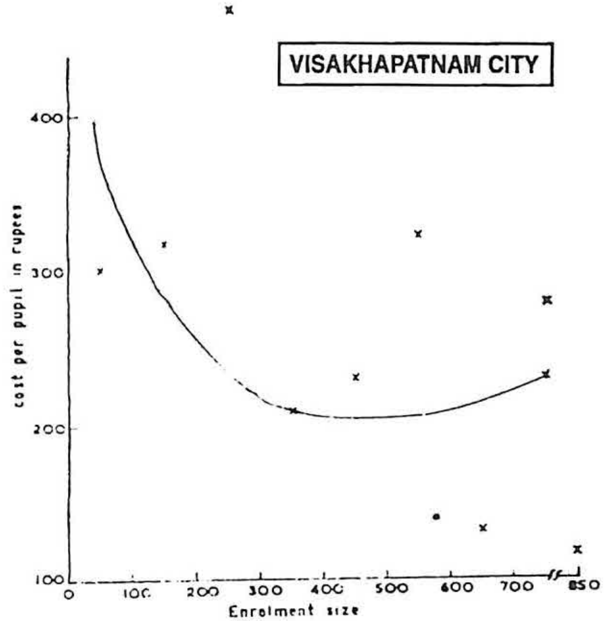

FIGURE 7.4
Unit Costs and Enrolment

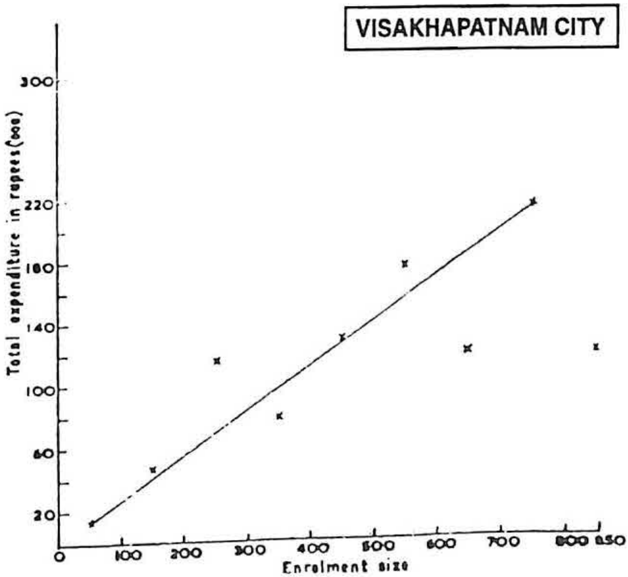

FIGURE 7.4A
Total Cost and Enrolment

three mandals of the district and the city. The results are given in Table 7.5.

Table 7.5

Regression Results of Economies of Scale

S. No.		a	X_1	X^2_1	$\overline{R}^2$
	1	*2*	*3*	*4*	*5*
1.	Payakaraopeta	357.496	-0.410 (1.395)	0.0006 (1.723)**	0.279 (1.971)
2.	Chidikada	671.68	-3.966 (5.834)*	0.0075 (4.303)*	0.923 (31.049)*
3.	Chintapalli	532.774	1.184 (0.125)	-0.023 (0.439)	0.070 (1.189)
4.	Visakhapatnam City	317.833	0.159 (0.357)	-0.0004 (0.847)	0.225 (2.165)

Note: Figures in brackets indicate t-values and f-values.

* Significant at 1 per cent level.

** Significant at 10 per cent level.

Regression Results

The regression results of the economies of scale show that the function $Y_1 = a + bX_1 + CX^2_1$ is found to be a good fit in the case of Chidikada. In the Payakaraopeta mandal, the coefficients are as expected. But only one coefficient is found to be significant at 10 per cent level. Therefore, the results are to be read with caution. It is found that economies of scale are operating in the case of schools in the Payakaraopeta and Chidikada mandals of the district. It is possible to interpret the results of Chidikada mandal where the coefficients and the R^{-2} are found to be statistically significant. In all other cases, the results are not as expected. In fact, the results of Chintapalli and Visakhapatnam city show the phenomenon of diseconomies, though the coefficients are not found to be statistically significant.

The results show one aspect i.e., the question of operation of economies of scale in the primary education system is a difficult proposition in urban areas and also in areas where the schools are located in predominantly scheduled castes and tribes populations. In these schools, no systematic attempt seems to have been made by the government to pursue a policy of a standard student-teacher ratio, appointment of teachers etc. The schools are run, it appears just on the basis of the demand and immediate pressure of the need, but not on the basis of any rational policy. The conditions in Chidikada, where the economies of scale are found to be operating are different. The cost structure is also different in the schools of this mandal. This already been explained in the previous section. This mandal seem to provide signs of healthy development which can be taken into consideration for prescribing policy options.

Conclusions

An attempt has been made in this chapter to identify the operation of economies of scale in the management of primary schools in the district of Visakhapatnam. All the schools selected for the sample are government supported schools. It is revealed that the teachers' intensity in primary education in terms of the proportion of expenditure made on teachers' salaries is around 95.0 per cent of the total cost per pupil. However, it has not been possible to conclude that there is a relationship between the size of the school and the teacher intensity. There is a marked difference in the structure of expenditure on primary education in rural areas and in the urban city. It is found that some amount is utilized for the quality components of education such as building, maps, teaching aids, etc., in the city while their presence is very meagre in rural schools. A casual examination of the data has shown that the inverse relationship between enrolment and unit cost has been found only in a sparsely populated mandal like Chidikada. The regression results have confirmed that the economies of scale are possible in the management of primary schools in this region. But, no systematic attempt has been made by the government, particularly in the urban areas and thickly populated areas, to plan schools and to reap the benefits of scale economies.

APPENDIX

Table 7.1

Economies of Scale in Primary Education in Payakaraopeta Mandal

Enrolment Size	*Cost per Pupil*	*Total Expenditure*
1	*2*	*3*
50	375.38	18769.00
150	247.75	37162.50
250	292.82	73205.00
350	307.53	107635.50
450	305.87	137641.50
750	382.35	286762.50

Table 7.2

Economies of Scale in Primary Education in Chidikada Mandal

Enrolment Size	*Cost per Pupil*	*Total Expenditure*
1	*2*	*3*
25	615.96	15399.00
75	363.87	27290.30
125	270.32	33790.00
175	234.38	41016.50
250	174.33	43582.50
350	190.76	66766.00

Table 7.3

Economies of Scale in Primary Education in Chintapalli Mandal

Enrolment Size	*Cost per Pupil*	*Total Expenditure*
1	*2*	*3*
30	626.75	18802.50
50	416.52	20826.00
70	557.68	39037.60
90	277.19	24947.10
110	610.67	67173.70
150	143.65	21547.50

Table 7.4

Economies of Scale in Primary Education in Visakhapatnam Municipal Schools

Enrolment Size	*Cost per Pupil*	*Total Expenditure*
1	*2*	*3*
50	300.68	15034.00
150	315.87	47380.50
250	471.41	117852.50
350	225.49	78921.50
450	285.20	128340.00
550	322.21	177215.50
650	180.41	117266.50
750	280.99	210742.50
850	138.69	117886.50

Notes

1. Daniel Rogers, "Productivity and Efficiency within Education" in Adams, D. (Ed.), *Education in National Development,* Routledge and Kegan Paul, London, 1971, p.48.
2. Riew John, "Economies of Scale in High School Operation" in Rogers and Ruchlin (Ed.), *Economics and Education,* Free Press, New York, 1971, pp. 140-149.
3. Sharma, G.D., *Institutional Costs of University Education,* Association of Indian Universities, Delhi, 1980, p.114.
4. Lakdawala, D.T. and Shah, K.R., *Efficiency in Utilization of Educational Expenditure in Gujarat,* Sardar Patel Institute, Ahmedabad, and "Cost, Size, and Location of Colleges in Gujarat", *Anvesak,* June, 1974.

5. The minimum point of the curve is obtained by using techniques of maxima and minima:

   For $\frac{dy}{dx} = 0$, and $\frac{d^2y}{dx^2} > 0$

6. Coombs, P.H. and Hallack, J., *Managing Educational Costs,* Oxford, London, 1972.
7. Alain Mingat and Jee Peng Tan, *Analytical Tools for Sector Work in Education,* The World Bank, Washington, 1987, p.39.

Chapter 8

Cost of Wastage (Dropouts) in Primary Education

So far, we have examined the structure of finances of primary education in Andhra Pradesh. It is revealed that primary education in the state has not been given proper attention in terms of the allocation of resources. It is necessary to see how even the given resources are utilized within the system. Therefore, the purpose of this chapter is to examine the problem of wastage (dropouts only) in primary education, and see how much amount of the public money is wasted as a result of this wastage in education.

Concept of Wastage in Education

The concept of wastage in education was for the first time popularly used in 1955 by Gadgil and Dandekar[1], in a report on the status of primary education in a district in Maharashtra, though the Hartog committee was the first to high light this problem in 1929.

The problem of wastage in education has also been recognized by UNESCO in 1971 as a world wide problem.[2]

The concept of wastage has two important connotations; namely, the problem of dropouts and repeaters (of a particular course of study for more than one year). The UNESCO, in its 1971 document, has recognized that educational wastage takes place in the following forms:

1. In failure of a system to provide universal education.
2. In failure to recruit children into the system.
3. In failure to hold children within the system.
4. In failure of the system to set appropriate objectives.
5. In inefficiency in the achievement of objectives.

The above mentioned five forms of wastage can be considered as a broad definition of wastage of education. However, the concept of wastage refers to in general usage, to the failure to achieve something or the failure to meet something, for which it is meant. A number of studies have already been undertaken in India to estimate the incidence of wastage in school education, the prominent among them are Gadgil and Dandekar,[3] Chickermane,[4] Chowdhuri,[5] Nair[6] and Sharma and Sapra.[7] Though there are slight variations in the definition of the concept of wastage in school education among the authors mentioned above, there is a common agreement among many of the researchers, that the concept of wastage refers to the problem of dropouts and push outs of the school system, particularly at the primary stage, before they complete four years of schooling resulting in illiteracy. The other problem area regarding which there is some agreement, is that most of the children at the school stage repeat the course in a grade for more than one year. As a result of these two factors, the expenditure made on the education of the children for an year to achieve the objective of literacy and numeracy is wasted. The other forms in which wastage occurs in education, as referred by the UNESCO need not be taken into account because, the government has by now provided sufficient number of schools, and the drive for enrolment of children is on over the years. Therefore, we understand that wastage in primary education occurs due to dropouts or repeaters.

The Methods of Measuring Wastage in Education

A number of methods have been devised by educationists and economists to measure the incidence and extent of wastage in education. The methods have been evolved on the basis of the availability of data and the purpose for which they are estimated. The following are the three popular methods that are in use:

(i) Apparent Cohort Method
(ii) Reconstructed Cohort Method
(iii) True Cohort Method

Apparent Cohort Method

The Apparent Cohort Method can be again divided into two ways when it uses a cross sectional data and a time series data. In the case of cross sectional data, enrolment in grade 1 in a given year is considered as cohort. Enrolment in all other grades in the same year is compared with grade 1, and if the same number of children are not found in the subsequent grade, the dimension is considered as an evidence of dropout or wastage. This method has a number of limitations, because the number of children in a subsequent grade in a year is not due to the pass outs of the preceding grade only. There are repeaters of the same grade, fresh enrolments into the grade, transfers etc. Therefore, a time series data of the cohort is considered to be more rational. In this case, the Index of Wastage (I_w) can be easily estimated with the following formula:

$$I_w = \frac{E^{g+1}_{y+1}}{E^{g}_{y}} \times 100$$

where,

E^{g+1}_{y+1} = enrolment in grade 'g+1' in the year y+1

E_{y}^{g} = enrolment in grade 'g' in the year 'y

Even this has the same leakages which we have referred to above. However, this serves as a rough measure of the magnitude of the wastage in primary education, and has been widely used in a number of studies.

Reconstructed Cohort Method

This method uses the data on successive year grades enrolments and repeaters in full cycle of a cohort. It is therefore possible to derive the promotion rate (PR), the repetition rate (RR) dropout rate (DR).

The following formula can be used to estimate the respective rates as mentioned below:

$$B_1 \text{ Promotion Rate } = \frac{P_{y+1}^{g+1}}{E_{y}^{g}} \times 100$$

where,

P_{y+1}^{g+1} = number of pupils promoted to grade g+1 in year y+1

E_{y}^{g} = number of pupils in grade g in year y

$$B_2 \text{ Repetition Rate } = \frac{R_{y+1}^{g}}{E_{y}^{g}} \times 100$$

where,

R_{y+1}^{g} = number of pupils repeating grade (g) in year y+1

$$B_3 \text{ Dropout Rate } = \frac{D_{y}^{g}}{E_{y}^{g}} \times 100$$

where,

$\frac{D_y^g}{E_y^g}$ = Number of pupils dropping out from grade g during the year y

$$B_4 \text{ Index of Stagnation} = \frac{1\,N_1 + 2\,N_2 + 3\,N_3 + 4\,N_4 + 5\,N_5}{N_1 + N_2 + N_3 + N_4 + N_5} \times 100 - 100$$

where,

N_i = the number of students in a particular grade spending i years

True Cohort Method

The true cohort method takes into consideration the school career of a cohort of pupils, and each individuals career is constantly followed and recorded in a card or sheet which will bear a number. This requires longitudinal studies and involve huge expenditure, that can be met by only rich countries like Sweden or USA.

Thus, we have method through which the magnitude of wastage or its qualitative dimensions at primary education can be measured depending upon the availability of data. But, we do not have comprehensive data on cohort basis for estimating the repeaters and dropouts on a time series basis either at the state level, or at the all India level. Therefore, in most of the studies, the apparent cohort method has been used. The real problem with the wastage in primary education is the waste of expenditure that is made by the state. Therefore, it is necessary to see how the costs of wastage can be measured.

Methods of Measuring Costs of Wastage

It appears that there are very few studies on the costs of wastage in primary education. The studies of Khan[8] and Nair[9] are two important studies that are available in print in this direction.

The study of QU Khan is specifically undertaken to estimate the direct expenditure that is wasted due to wastage in school stage education. He has first established that the country has a primary stage of five years duration, middle stage of three years duration and high secondary stage of three years duration. Then, he has obtained the cost of each level of education in terms of the cost of primary education per pupil. The ratio between higher secondary to primary and middle stage to primary for years 1955 and 1965 have been estimated from the data of the *Education in India* and the 1964-66 Education Commission. These are used to estimate the physical efficiency coefficients. Assuming that the wastage is zero, he derived the following results.

for 1955 $= 5C_p + 3(2C_p) + 3(3C_p) = 20C_p$ .. (a)

for 1965 $= 5C_p + 3(1.5C_p) + 3(3.5C_p) = 20C_p$ .. (b)

Later he has estimated the coefficients of dropouts and stagnation. After allowing for these two factors in the cost of wastage, he has obtained the following results.

for 1955 $= 2.25C_p \times 5C_p + 1.35 \times 6C_p = 1.46 \times 9C_p = 32.49C_p$.(c)

for1965 $= 1.93 \times 5C_p + 1.25 \times 4.5C_p + 1.40 \times 10C_p = 29.97C_p$.(d)

The effect of educational wastage is arrived at by subtracting the first set of results from the second set of results. That is (a) in I set is deducted from (c) in II set and (b) in I set is deducted from (d) in II set. On the basis of this exercise, he has concluded that the general school system in 1955 costed 62 per cent more than in 1965 where it is found to be 50 per cent. He has further extended his exercise in estimating the actual amount of expenditure that is involved in the wastage of education. For this, he has first estimated the proportion of expenditure on each stage of education to the total expenditure on school education in 1955 and 1965. Later, the proportion of the direct educational expenditure actually incurred to finance the fruitful and productive part of each stage is obtained by finding the ratio of the proportion of expenditure on each stage to the cost of education (with educational wastage). For instance, the ratio at primary stage is estimated by dividing 0.551 with 2.25. This ratio is used to estimate the cost of wastage at school stage. It is estimated that an amount of Rs.4,633 lakhs in 1955 and Rs.11,353 lakhs in 1965, went into the cost of wastage. The method in which he has arrived at the figure shows the indirect and cumbersome process due to lack of data on the items that are necessary for these estimates.

Therefore, Nair did not prefer to estimate the actual expenditure on the wastage of seven years of elementary education. He has used the Markov Chain Index to arrive at the actual number of years of schooling a pupil has taken to complete a course. This he has called the 'effective cost of education'.

According to him, the effective cost is the number of years of schooling which takes into account the wastage resulting from dropout and stagnation. The usual methods of calculating per pupil cost of education is to divide the total expenditure by the number of pupils. This method is unsatisfactory since it does not take into account the resources spent on dropout or repeats, and there exists qualitative differences in the output of educational system.

For analyzing qualitative differences in education it is necessary to construct index of education which would be used for inter-institutional or inter-state comparisons. He measured cost of education as the number of pupil years expended per persons completing a given number of schooling. Dropout and repetition rates may be high if the socio-economic environment and the internal facilities are at low standards. Therefore, it is clear that a pupil-time index of educational cost can be constructed only by estimating the rates of dropout and stagnation.

There are methods to measure the wastage and stagnation.

First, the comparison of enrolment in each of the higher classes with that in class I during any selected year, and to take reduction in the proportion of the enrolment in the higher classes as a measure of wastage (dropout).[10]

Another method is the Markov Chain Model. It is given by the Transition Probability Matrix.

$P = (P_{ij})$ $(i=1,2,3,4,5$ and $j=1,2,3,4,5,6)$ .... (1)

where P_{ij} is the probability that a student in the i^{th} stage of the educational system moves next year to the j^{th} stage. The first five stages are standards 1 to 5 respectively and the last stage represents the stage of a student leaving the system from any of the 5 standards.

Assumptions about 'P'

From any given standard a transition to next year is possible only to that standard (in case of failure), or to the next higher standard (in case of promotion), or to stage six (in case of dropout); no other transition is possible. And also $P_{5,6} = 1$ which means that any one who leaves the system does not enter it again. The matrix P thus becomes very simple and its computation will be easy.

The matrix P is assumed to be constant over time. One of the implications of this assumption is that the probability of promotion (or stagnation or dropout) from a given standard is independent of the number of years a person has already spent in that standard. Other limitations are that it has not provided any allowance for (a) direct admission into class II and the higher classes (b) mortality among students, and (c) promotions given before completion of the prescribed period. With the above assumptions, the dropout or stagnation can be calculated for any given cohort of students years.

$P = (p_1, p_2 \dots p_6)$ is the vector proportions of a given cohort in the initial year, n years hence and proportions will change to q will be

$q = p^{pn-1}$ ......(2)

If we start with an initial cohort entirely in standard I, we may set for p the vector (1,0,0,0.0.0) in (2).

Since stage 6 represents an absorbing state, the theory can be used for evaluating the matrix.

$N = ((E(n_{ij})))$ ...... (3)

where $((E(n_{ij})))$ gives the expected (or average) number of years a student entering the system into the i^{th} stage which he spends in the j^{th} stage of the system excluding the absorbing state, i.e., 6.

Hence $\sum_{i=1}^{5} n_{ij}$ x N_i gives the average number of i=1 years a student entering i^{th} stage spends in the entire system before leaving it finally.

In the theory of Markov Chains it is $N = (I-A)^{-1}$.....(4)

where A is obtained from P by suppressing the last row and the last column (i.e., row and column corresponding to the absorbing state).

'N' can be used for computing aggregate statistics like stagnation for the system as a whole and the corresponding partial wastage of resources.[11]

The method of Nair, though scientific in its approach, does not really indicate how much money is wasted in the process of education. Further, the method is based on a number of assumptions. Therefore, it suffers from the same limitations that we have found in the case of Khan. It is because of the lack of data, that both these writers have resorted to indirect methods of estimation of costs of wastage in education. But, we have tried to get some reliable data on the dropout rates on a time series basis for the state of Andhra Pradesh which can be used as a basis to estimate the costs of wastage in primary education. We have also estimated the costs of wastage by following the procedure of Khan, and later both the results will be compared.

Wastage in Primary Education in Andhra Pradesh

The review of the methods of measuring the wastage, and the costs of wastage in the preceding sections indicate that the problem of wastage is a serious one that needs the attention of all those who are concerned with the policies of education. The studies conducted on the educational wastage in India, particularly at the stage of elementary education revealed that, "it varied from 35 per cent to 50 per cent and the component of wastage on account of repetition is almost one-third of the total wastage. Further, the incidence of wastage among girls is more than that among boys." Again based on these studies, Sapra[12] comes to the conclusion, that 65 per cent of the wastage in primary education can be attributed to socio-economic causes and 35 per cent to educational causes. Among the innumerable factors that are said to be responsible for educational wastage, the following are considered to be important:

1. Economic backwardness of the family.
2. Excessive involvement of children in domestic work.
3. Poor health and malnutrition of the school-going age children.
4. Caste barriers and taboos among female children.
5. Poor educational and occupational status of the parents of the children.
6. Parental attitude towards education.
7. Social customs like early marriage and early betrothal.
8. Ill-designed curriculum and methods of teaching.
9. Detention of pupils in lower classes and grade repetition, and
10. Poor school environment and low status of the teachers.

It appears that there are practically no studies on the educational wastage at the school stage in Andhra Pradesh, though there are many case studies and school surveys on the problem of wastage. Therefore, it is difficult to estimate the incidence of wastage in the state of Andhra Pradesh in the methods explained earlier. However, we have some time series data on the enrolment of children at different grades within the elementary stage. This will be helpful in estimating the drop out rates at different grades corresponding the cohorts. In fact, the Manpower Cell of the Department of Finance and Planning has estimated the rates of dropouts for a continuous period upto 1973-74, starting with the 1956-57 age cohort. The data represented in their publication, *Fact Book on Manpower in Andhra Pradesh.*[13] But the data presented by the Manpower Cell does not include information on the stagnation, an important component of wastage as per the methods proposed by the researchers as mentioned earlier. In this context, we may mention further that the Government of Andhra Pradesh has introduced an innovative scheme of non-detention system from the year 1971, which makes the methods suggested by researchers redundant for application to Andhra Pradesh.

Non-Detention and Wastage in Education

The innovative scheme of non-detention is an educational policy that has been seriously implemented in the state of Andhra Pradesh at school level. After finding that the detentions of pupils at the lower grades of elementary schools are responsible for stagnation, which in turn has been responsible for more than 20 per cent of the wastage, the government has introduced the scheme of non-detention upto X standard. According to the scheme, the pupils enrolled into class I will be automatically promoted to the subsequent classes upto VII in the elementary stage, and there will be a common public examination at VII standard. If the pupils are successful in getting through the public examination at the end of VII standard, promotion to the next class upto X standard is again automatic. Again, there will be a state-level examination at X standard. This automatic system of promotion has been functioning in the state for almost two decades. This system has certain checks and balances like the student attending classes regularly, etc. But, in general all those who are enrolled in class I are sure of reaching class VII, and the question of wastage in primary education in the State of Andhra Pradesh is confined only to the problem of dropouts. It is easy to compute the rate of wastage once the dropout rate is known. In fact, the dropout rate is treated as the rate of wastage in Andhra Pradesh, after the introduction of the non-detention system. However, it will be particularly useful in calculating the rate of wastage prior to the introduction of non-detention system. But we are presenting a time series data on the rate of wastage in Table 8.1 for the period from 1956-57 to 1978-79 taking only the dropout rates. This makes the comparison easier over the years.

The table shows that out of 100 pupils enrolled in class I in 1956-57, 56 reached class II in 1957-58, 44 class III in 1958-59, 35 reached class IV in 1959-60 and 29 to class V in 1960-61. Therefore, we can see the number of pupils reaching the subsequent grades or classes depending upon their preceding grade from the preceding year, making the number of pupils reaching different classes available in a year, in all the grades. The table indicates that 71 per cent of the students dropout in the primary stage during 1956-57 to 1960-61 cohort period. The rate seems to have continued for almost a decade, except in 1965-66 when the rate has increased to 75 per cent. It is interesting to observe that majority of the students dropout before they reach grade II. This is to be taken into consideration in the policies directed to improve stay-ins in the system.

The Costs of Wastage in Primary Education

It is necessary to estimate the costs that are involved in this wastage. The costs of wastage in primary education in the state of Andhra Pradesh can be estimated by following any two of the methods reviewed earlier. As our intention is to find out how much amount has really gone in to financing the dropouts

Table 8.1

Enrolment and Wastage at Primary Level in Andhra Pradesh

Year	*Percentage Enrolment in Classes II, III, IV and V to the enrolment in Class I in the corresponding cohort Year*				
	I	*II*	*III*	*IV*	*V*
1	*2*	*3*	*4*	*5*	*6*
1956-57	100	-	-	-	-
1957-58	100	56	-	-	-
1958-59	100	55	44	-	-
1959-60	100	56	44	35	-
1960-61	100	56	44	34	29
1961-62	100	56	46	35	29
1962-63	100	50	44	36	29
1963-64	100	52	38	35	30
1964-65	100	55	40	30	29
1965-66	100	61	44	32	25
1966-67	100	60	47	32	26
1967-68	100	57	47	36	27
1968-69	100	59	46	36	30
1969-70	100	59	46	36	30
1970-71	100	61	46	36	29
1971-72	100	62	48	36	29
1972-73	100	63	50	39	31
1973-74	100	63	51	41	33
1978-79	100	61	50	40	37

Sources: 1. Finance and Planning Department, Government of Andhra Pradesh, *Fact Book on Manpower in Andhra Pradesh*, Hyderabad, 1979, p.65.

2. For 1978-79 data computed from the records of Directorate of School Education, Government of Andhra Pradesh, Hyderabad.

at the stage of primary education, we intend to follow a different approach to arrive at the figure. However, an estimate is also made by following Khan's method of costing wastage in primary education. It is also our intention to compare this estimate with our own estimate to find out the reliability of our estimate. We have done this exercise for two points of time 1961-62 and 1981-82, with an intention to compare the change in costs over a period of two decades.

The cost variation at different levels of education is the basis to estimate the cost per pupil. The cost was expressed by Khan in terms of primary education. As we are interested in elementary education, we have estimated the cost of education for 1961-62 and 1981-82 in terms of primary education. It is found that the ratio between the cost of middle school education to primary education in 1961-62 at 1.56 times. There is no change in the proportion in 1981-82 and it is found at 1.56 times.

We have made allowance for dropout rates to estimate the cost of wastage. It is observed from Table 8.1 that the cumulative dropout rate at primary level was 0.71 in 1961-62, and 0.63 in 1981-82. The corresponding dropout rates for upper primary education is obtained from the reports of the Director of Public Instruction. It is found that the dropout rates at upper primary level is 0.21 in 1961-62 and 0.13 in 1981-82.[14] Now, the cost of education in terms of the wastage can be calculated as 1.71 at primary level and 1.21 at upper-primary level in 1961-62. It has come down to 1.63 at primary level and to 1.13 in upper primary level in 1981-82. We can express these coefficients in terms of Khan's physical coefficients assuming wastage as zero as follows:

for 1961-62 $5C_p + 3(1.56C_p) = 9.68$ .... (a)

for 1981-82 $5C_p + 2(1.56C_p) = 9.12$ .... (b)

We can introduce now, the wastage factor, (here the dropout rate only) and see the extent by which the cost of education gets inflated in two years, and also examine the relative position in the two years. The above results(I) now take the following shape:

for 1961-62 $1.71 \times 5C_p + 1.21 \times 4.68C_p = 14.21$ ... (c) for 1981-82 $1.63 \times 5C_p + 1.13 \times 3.12C_p = 11.67$ ... (d)

The effect of wastage in education can be found by substracting the first set of results ((a) in I set (c) in II set and (b) in I set-9d) in II set) from the second set of results, for the two years under study. It may be noticed that in 1961-62 the elementary education consisting of primary and upper primary cost 46.79 per cent of the total expenditure, while the system has shown some decline in the cost in 1981-82, as it has costed 43.72 per cent only. The above figures are not encouraging, and show no substantial change in the costing of wastage in elementary education, as the difference amounts to only 3 per cent.

We can also estimate the absolute amounts that have gone waste in the process of elementary education. This requires an additional information regarding the proportion of expenditure made between primary and upper primary level. The data can be obtained from Table 5.3 in Chapter 5, and can be reconciled with the other data. The proportion of the expenditure used on primary education was 0.70 in 1961-62, and it declined to 0.63 in 1981-82, within education. Now, we can find out the proportion of the direct expenditure that went into the financing of the dropouts in Andhra Pradesh.

Table 8.2

Expenditure on Dropouts in Andhra Pradesh

S. No.	*Level*	*1961-62*	*1981-82*
	1	2	*3*
1.	Primary Education-graduates	$\frac{0.70}{1.71} = 0.41$	$\frac{0.63}{1.63} = 0.39$
2.	Upper Primary Education-graduates	$\frac{0.30}{1.21} = 0.25$	$\frac{0.34}{1.17} = 0.29$
3.	Total Direct Expenditure that went into educational dropouts (Rs. lakhs)	334.78	3693.78
4.	E W_g Graduates	0.34	0.32

The amount that went into financing the dropouts can be found out by using the EW_g, the wastage coefficient. The details are worked out in Table 8.2. It is observed from Table 8.2 that an amount of Rs.334.78 lakhs has been wasted in 1961-62, and the amount of expenditure that has been used to finance dropouts comes to Rs.3693.78 lakhs in 1981-82.

Costs of Wastage in Terms of per Student Expenditure

The estimate of expenditure made on dropouts at the primary stage can also be made on the basis of finding the cost per pupil, and multiplying it with the number of dropouts in a year. This is a crude direct method through which the total expenditure on dropouts can be estimated. We have already provided the data relating to the retention rate at different grades of primary education. Therefore, it is easy to estimate the number of people who have dropped out at each grade in a particular year. As the retention rates provided in Table 8.1 relate to the age cohorts, the data relating to the rates presented with reference to an year, can fairly provide the dropouts at each grade in a year. If once the dropouts are known, the total expenditure on the dropouts can easily be estimated by multiplying it with per student expenditure. The per student expenditure has already been provided in the previous chapter. We have estimated the total dropouts and the expenditure incurred on dropouts for two different years, 1961-62 and 1981-82, in Table 8.3.

It can be seen that the total expenditure incurred on the dropouts at the primary stage was found to be Rs.232.71 lakhs in 1961-62. The amount has increased to Rs.1793.87 lakhs in 1981-82. This shows that 28.77 per cent of the total expenditure on primary education was used on wastage in 1961-62, and this has declined to 23.66 per cent in 1981-82. The decline of 5 per cent in a period of twenty years appears to be a small amount, but it indicates a positive sign in terms of the decline in the expenditure on wastage. Thus, the estimate of expenditure on primary education is well comparable with the estimate made with the help of Khan's method, that has been provided in Table 8.2. The expenditure on wastage on elementary education that includes upper primary (Table 8.2) is found to be almost the same as that of our estimate provided in Table 8.3 on primary education, if the expenditure on upper primary is deducted in the year 1961-62. And it will be slightly higher than that of our estimate for 1981-82. However, our estimate is found to be more close to the actual amount, as we have derived this amount by directly estimating the dropouts in a year, rather than reaching at the figure it through an indirect method.

Table 8.3

Grade Wise Enrolment and Dropouts in Andhra Pradesh 1961-62 and 1981-82

Grade	*1961-62*		*1981-82*	
	Enrolment	*Dropouts*	*Enrolment*	*Dropouts*
1	*2*	*3*	*4*	*5*
I	1361374	599004	1877341	732163
II	695929	124292	1208919	217605
III	508594	99481	954580	190916
IV	381289	65353	754526	56589
V	300023	88806	645395	93066
Total	3247209	976936	5440761	1290339
Total Expenditure on Dropouts (Rs. in lakhs)	-	232.71	-	1793.87

It may be noted here from Table 8.3 that the cost of wastage is higher at the stage of grade I and II in both the years, in terms of the large number of dropouts. Though we have not shown the actual amount of expenditure that is wasted at these grades in Table 8.3, the data on the dropouts at these two grades indicate the magnitude of the problem which needs to be taken into consideration in the policy framework.

Conclusion

The analysis in this chapter on the problem of wastage in primary education has brought to light that Andhra Pradesh is one of the few states in the country which has been suffering from low rates of retention. The low level of retention rates and thus the high dropout rates are found among the weaker sections of the society like scheduled castes, scheduled tribes and backward classes. An attempt has been made here to estimate the costs of wastage in primary education. We have considered the problem of dropouts as the problem of wastage, since the State has introduced the scheme of non-detention since 1971, at the stage of school education. Therefore, we have estimated the costs of wastage by following the Khan's method, and also adopted our own direct method to estimate the costs of wastage. It is revealed that an amount of Rs.334.78 lakhs in 1961-62 and Rs.3698.78 lakhs in 1981-82 have been used to educate the dropouts at the elementary stage as per Khan's method. Our own estimate shows that an amount of Rs.232.71 lakhs in 1961-62 and Rs.1793.87 lakhs in 1981-82 have been used for the dropouts in primary education only. This figure compares fairly with the figure arrived at with Khan's method, if the expenditure on upper primary is deducted from the amount of expenditure used for educating the dropouts during the period 1961-62 to 1981-82. The decline in the cost of wastage is found to be around 5 per cent during a period of two decades. This appears to be a healthy sign of development in school education. It remains to be insured that there should not be any wastage to the exchequer in the near future, so that these resources can be diverted to improve the quality of education at this stage.

Notes

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13. Government of Andhra Pradesh, *Fact Book on Manpower in Andhra Pradesh*, Finance and Planning Department, Hyderabad, 1979.
14. These are approximate rates based on the figures reported in the annual reports of the Director of Public Instruction of Andhra Pradesh, Hyderabad.

Chapter 9

Alternative Policy for the Achievement of Universalization of Primary Education

The analysis and discussion in the previous chapters have provided us some understanding of the economics of primary education in Andhra Pradesh. The conclusions drawn from the empirical data show that there is an urgent need to develop an alternative policy to achieve the universalisation of primary education in India in general, and in Andhra Pradesh in particular. Therefore, an attempt is made in this study to suggest a policy based on the results of the present study to achieve this goal. It is also one of the objectives of the chapter to estimate the costs of implementation of the Operation Black Board (OB), one of the important areas of the programme of action suggested by the National Policy on Education, 1986 to achieve Universalization of Elementary Education (UEE).

Past Experiences

The achievement of UEE for the children in the age group (6-14) is a constitutional obligation. The Constitution of India has laid down under Article 45 that the state shall strive to provide compulsory and free education for all children till they reach the age of 14 years by the year 1960. This has remained a distant dream even after 20 years after the target year. The colonial rulers have been blamed for the illiteracy and ignorance in the country. But, it is paradoxical, after forty years of independence to blame the colonialists. No doubt, the Britisher were responsible in creating a class of educated persons who would know English, became familiar with Western knowledge through it, and act as interpreters and intermediaries between the rulers and the ruled. Incidentally, they also tried to spread education among girls, and the common people including the scheduled castes, scheduled tribes and other depressed classes, who constitute even today the bulk of our illiterate population. But, the Britisher consistently refused to accept the responsibility for the education of the people on administrative and financial considerations, which, in their opinion had 'decisive weight'. They believed in the 'downward infiltration theory' under which education and culture percolate inevitably from the classes to the masses. They therefore assured that they would only create an educated class in the first instance and that it would be the responsibility of this class in due course, to educate the masses. They did realize this limited objective so that when their rule came to an end in 1947, their main achievement was the creation of the new system of formal education through which the upper and the middle classes had benefited. The poor people still remained outside the system, large number of their children did not go to school, a large proportion of those enrolled dropped out early, making the percentage of literacy among these groups around 20 per cent. It is largely due to the neglect of the expansion of primary education. Once, the late J.P. Naik had pointed out that "we appointed a University Education Commission in 1948, a high level technical manpower committee in 1949 and a Secondary Education Commission in 1952. All these merely strengthened the British tradition of education of the classes and an over emphasis on secondary and university education which now receive 60 per cent of the total educational expenditure. On the other hand, an Elementary Education Commission has not been appointed at all."[1]

Contemporary Situation

In addition to the past disadvantages, the contemporary situation in primary education suffers from problems like early childhood disabilities. It is so alarming that nearly eighty per cent of children have body, weight below normal standards. These include 42 per cent mildly malnourished, 35 per cent moderately nourished, and six per cent severely malnourished. Cognitive stimulation at home during early childhood which is so vital for the later years of life, is poor because of low female literacy rate which is 24.88 per cent.[2] Therefore, if education is to progress and the achievement of five years of universal primary schooling is to take place in the country so as to make education available to all, it is necessary that there should be an integrated approach towards the problem of malnutrition, child care and schooling. However, the government has recognized the importance of functional literacy in recent years, and thus elementary education. It is for the first time that the Government of India through its National Policy of Education, 1986 has fixed the targets that all children in the age group (6-11) will have five years of schooling by 1990, and by 1995 they shall have eight years of schooling.

The achievement of these targets, however, depends upon the resolution of some of the paradoxes in the system such as,

(a) about 60 per cent of the people (age 10 and above) are still illiterate and have received none of the benefits of this vast educational system;

(b) about 20 per cent of the children, mostly the lowest of the low have, never entered the portals of a school;

(c) around 17 per cent of the male children and 11 per cent of the female children in the age group of 5-14, are involved in the labour force as main or marginal workers, and they do not have opportunities of receiving any type of education;

(d) of those 53 per cent of the male and 35 per cent of female children who are enrolled in the school, nearly dropout by class V, and nearly three-fourths dropout by classes VIII, and only 15 reach class XII, and less than one get the first degree;

(e) the children from poor families generally get an unfair deal in the system, which still continue to use English as medium of instruction in higher education. The elite language and environment in the formal system generally create a culture shock to the poor and disadvantaged groups, and eventually push them out of the system; and

(f) the educational distance between the scheduled castes and all others at upper primary level needs around 24 years to bring equality among groups and the distance between the scheduled tribes and all others at this stage need around 150 years to reach complete equality, if the present rates of growth of these sections continue to be the same in future.[3]

The National Policy on Education has recognized the need for UEE and has identified nine educationally backward states in the country, where 75 per cent of the out-of-school children in the country are identified. Andhra Pradesh is one such educationally backward state in the country. All the above mentioned paradoxes are also present in the system in Andhra Pradesh.

Specific Problems of Primary Education in Andhra Pradesh

It has been revealed in the study that there is no systematic policy of expansion of facilities in the state during the period 1956-57 to 1992-93. The enrolment ratio is found to be less than the national average and it is around 90.0 per cent in 1984-85, but ultimately it reached 109.07 per cent in 1992-93, which is more than the national average. The dropout rates among the socially deprived sections of the society, particularly among the scheduled castes, is found to be the highest, and it is around 80.0

per cent at the primary stage. But, the state does not appear to have made any systematic attempt to overcome this by allocating sufficient funds. It is revealed that the total number of teachers appointed at this stage was 1,14,460 in 1992-93. Further, the growth in the budgetary allocations for the expansion of primary education has remained less than the growth of the resources for higher education over the years. In fact, the plan expenditure on primary education has declined successively from plan to plan. The state has not yet achieved the target of devoting 3 per cent of its SDP to primary education, and has not even reached 1 per cent of SDP by 1981-82, and has now reached 1.90 per cent by 1985-86. Though the operation of economies of scale are possible in the primary schools in certain rural areas, it has not been pursued systematically in the cities and in densely populated areas, where it is much more easier. As a result, several crores of rupees are wasted in reaping diseconomies and in financing the dropouts at primary education. These problems must be tackled through a rational policy of education.

A Suggested Alternative Policy

Keeping the above factors in mind, a policy to achieve universalization of primary education is suggested below:

(1) The study of the determinants of primary education has indicated that the expansion of schooling facilities in the state is the important determinant for universalization of elementary education. Therefore, the first priority in UEE should be given to the expansion of schooling facilities to as many areas as possible. There are around 10 per cent of habitations in the state which do not have a primary school in their vicinity. The conditions at the upper primary stage are still worse (see the details in Appendix Table 9.1). The achievement of constitutional obligation of UEE includes upper-primary education. However, the enrolment at the

upper-primary stage depends upon primary education. Therefore, a phased attempt of starting primary schools, first in the remote areas and in backward districts in Telangana and Rayalaseema is to be attempted, and then they can be linked with upper primary school at a particular ratio of 5:1 or 5 primary schools per one upper-primary school etc.

(2) The dropout rates at the primary stage particularly at the V standard is found to be high among scheduled castes and tribes. The rate is very high particularly in the districts like Medak, Nizamabad, Rangareddy and others. The factors responsible for the high dropouts in these districts may be specifically studied, and the retention rates should be improved. In order to retain the children in the primary schools, special incentives like the mid-day meal, group insurance to the families of dropout children may be adopted as a crash programme.

(3) Often, the lack of preparation of the child for schooling in the age group 3-5 is found to be one of the reasons for dropouts. The policy of early childhood care and education, as enunciated by the National Policy of Education, 1986,[4] should be introduced not only in the urban areas, but also in the rural communities. This will help the children to get sufficiently motivated and prepared to meet the challenges of formal schooling, and retain them in the school at least upto the V standard.

(4) A rational budgetary policy has to be devised, basing it on the expected enrolment of children in the specific age group, to avoid the difference between estimates and actual expenditure. The unspent amounts of money devoted for higher education in the budgets should be diverted to primary education, and the goals of devoting 3 per cent of SDP for primary education should be implemented by the year 1995. In devoting resources and providing grant-in-aid to local bodies and private agencies for primary education, sufficient guidelines to achieve the economies of scale

should be emphasized to reap the benefits of economies.

(5) The coefficient of variation in the provision of primary education has declined over a period of time in the advanced districts. This shows the influence of the economic advancement in the district on the enrolments at primary stage. As the education and development are interrelated, economic support programmes in the identified underdeveloped districts should be given the highest priority. And within the underdeveloped districts, families below the poverty line must be given incentives to send their children to school.

(6) The quality of primary education at the primary stage should be improved to create environmental conditions for the children to stay on in the school. The three-point formula of (1) Operation Black Board, (2) enrolment and retention in the age group (6-11), and (3) provision of preschool facilities, developed by the NPE, 1986, should be given priority in the implementation strategy.[5]

However, it is necessary to see the feasibility of the implementation of the Operation Black Board scheme in the state.

Cost of Implementation of Operation Black Board (OB)

Before introducing the OB scheme in the state, it is necessary to estimate its costs so that we can find out whether it is feasible in terms of budgetary resources available for education in the State. An attempt is made here to estimate the possible expenditure that is required to implement the scheme in the state of Andhra Pradesh. It is widely known that the National Policy on Education, 1986, has envisaged a scheme of Operation Black Board in its programme of action to encourage enrolment and retention rates at the level of school education. Among the 26 items that are proposed by the programme of Operation Black Board (see Appendix 9.1) to improve the quality of education, the most important items appear to be (a) permanent building with at least two rooms, (b) a black board, and (c) chalk pieces and charts, and (d) other educational aids to each school. It is assumed that these facilities would improve the quality of education in our schools.

In order to estimate the cost of implementing the scheme of Operation Black Board in the state of Andhra Pradesh, we have taken only the above four items of the scheme. The basis for the estimation of the cost of OB is taken from the Fourth All India Educational Survey conducted by the National Council of Educational Research and Training in 1978. The Survey has provided the number of schools which do not have the above mentioned facilities. In Appendix Table 9.1, we have given some selected indicators of educational facilities in Andhra Pradesh. It shows that around 60 per cent of the schools in Andhra Pradesh do not have their own school buildings. The number of such schools in 1984-85 is estimated to be 25,021 in Andhra Pradesh. As the four items of the OB require a minimum of one permanent building to operate, it is assumed that the same number of schools apply to the supply of black boards. The number of schools which may use charts even within a thatched hut is assumed to be 20 per cent of the number of schools without buildings. This comes to 20,017 schools in Andhra Pradesh. The cost of each building is assumed to be Rs.50,000 and that of black board Rs.100. The cost of charts required in each school is estimated to be around Rs.50. A sum of around Rs.20 per month to each school towards expenditure on chalk pieces is essential. This works out to be Rs.200 for 10 months (academic year). The total expenditure thus worked out for an year on the basis of 1984-85 data is provided in the Table 9.1

The expenditure that is necessary to implement the best part of the Operation Black Board in Andhra Pradesh thus requires an amount of Rs. 12595.53 lakhs. This amount constitutes 57.89 per cent of the normal expenditure on total primary education as per the latest budget estimates for the year 1986-87. This is around 23 per cent of the total budgeted expenditure on total education in the state of Andhra Pradesh. The estimate appears to be a reasonable amount which the state can provide in a reasonable period of time.

Table 9.1

Expected Costs of the Scheme of Operation Black Board in Andhra Pradesh

S. No.	*Item*	*Number of Schools*	*Amount in Rs. lakhs*
	1	*2*	*3*
Non-Recurring			
1.	Buildings	25021	12510.50
2.	Black Boards	25021	25.02
3.	Charts	20017	10.01
Recurring			
4.	Chalk Pieces	25021	50.00
	Total Amount Required		12595.53

The government has now decided that some of its funds under the IRDP and RLEGP programmes will be utilized for the implementation of OB in primary education. Therefore, the dearth of funds for the implementation of OB does not pose a problem. However, the successful implementation of the policy depends upon the strategies, and more particularly the involvement of the local community, the youth and the voluntary sector to realize the long cherished goal of universalization of primary education, if not the universalisation of elementary education in Andhra Pradesh, at least by the end of this century.

APPENDIX

Table 9.1

Status of Educational Facilities in Schools in Andhra Pradesh

S.No.		*Year*	*Primary*	*Middle*
1	*2*	*3*	*4*	*5*
1.	Percentage of Trained Teachers	1978-79	98.5	94.9
2.	Percentage of Schools Without Own Buildings	1973-74	42.4	63.6
3.	Percentage of Schools Without Own Buildings	1978-79	39.5	72.2
4.	Schools functioning in Open Space, Tents, Thatched Huts and Kuchha Buildings	1978-79	21869 (55)	1378 (32)
5.	Percentage of Institutions in Rural Areas	1977-78	93.8	81.8
6.	Pupil-Teacher Ratio	1977-78	45	32
7.	Percentage of Population Within the Habitation	1978-79	91.8	36.0

Source: *Selected Indicators of Educational Development in India*, NIEPA, New Delhi, 1984.

Note: Figures in brackets indicate percentage to the total in that category.

APPENDIX 9A

Essential Facilities Envisaged at the Primary Stage as Per Programme of Action

1. Teachers' Equipment
    - (a) Syllabus
    - (b) Textbooks
    - (c) Teachers' Guides
2. Classroom Teaching Materials
    - (a) Maps—District, State, Country
    - (b) Plastic Globes
    - (c) Educational Charts
3. Play Materials and Toys
    - (a) Wisdom Blocks
    - (b) Surface Tension

- (c) Bird and Animal Puzzle
- (d) Animal World
- (e) Balance and Weights
- (f) Magnifying Glasses
- (g) Magnets
- (h) Measuring Tape
- (i) Cleanliness, Nutrition, Language, and Number Charts

4. Games Equipment
    - (a) Skipping Rope
    - (b) Balls-Football, Volleyball, Rubber Balls
    - (c) Air Pump
    - (d) Ring
    - (e) Swing Rope with Tyre
5. Primary Science Kit
6. Mini Tool Kit
7. Two-in-One Audio Equipment
8. Books for Library
    - (a) Reference Books—Dictionaries, Encyclopedias
    - (b) Children's Books (at least 200)
    - (c) Magazine, Journals and Newspapers for Teachers and Children
9. School Bell
10. Musical Instruments—Dholak or Tabla, Harmonium, Manjira
11. Contingency Money with Teacher
12. All Weather Classrooms
    - (a) Classrooms
    - (b) Toilets—One for Boys and One for Girls
    - (c) Mats and Furniture for Students and Teachers

13. Black Board
14. Chalk and Duster
15. Water Facility
16. Trash Can

Notes

1. Naik J.P., *Education for Our People* (Mimeo), Institute of Advanced Study, Simla.
2. Government of India, *National Policy of Education: Programme of Action,* 1986, p.1.
3. Chalam, K.S., *Education and Weaker Sections,* Inter India, New Delhi (Forthcoming).
4. *Ibid.,* pp. 2-6.
5. Government of India, *op.cit.,* pp.10-17.

Chapter 10

Summary and Conclusions

Primary education is recognized as prerequisite for the human resources development. It is clear now that without improving the base of the educational pyramid that consists of primary education, it is impossible to achieve universalization of elementary education and also literacy. Andhra Pradesh has been identified as one of the nine educationally backward states in the country as per the 1991 census. There may be many factors that are responsible for this. But, it is necessary to understand what economic factors particularly, the financial resources, are responsible for not achieving this constitutional objective. It is also imperative to study whether the invested funds are really used for achieving the constitutional objective, or they are merely wasted on dropouts. The process of primary education is a very big segment of the education sector and also of the economy and therefore, it is to be seen whether the benefits of the economies of scale can be reaped by organizing the system in a rational way. If questions of this type are answered, it is possible to suggest a policy to achieve the universalization of elementary education in the state. An attempt is made in this study to address these problems.

The size of the primary education in Andhra Pradesh is as big as the population of some of the small African countries.

But, in terms of its proportion to the corresponding school going age group, it is still found to be inadequate to fulfil the objectives of the Indian Constitution. The enrolment rate at the elementary stage (in the age group of 6-14) is found to be less than 50 per cent of the corresponding age group children, though the rate is around 89 per cent at primary stage (6-11 years age group). It seems that the state has not devised any systematic policy to achieve the constitutional objective of universalization of elementary education that includes primary education, in the state. The state seems not to have drawn any lessons from its experience of low level of enrolment rate at the primary stage. This is clearly reflected in the appointment of teachers for primary schools. It is found that there is no trend in the growth of the number of teachers appointed, which is always constant at the level of 79,000 during the period 1956-57 to 1981-82, and ultimately it reached 1,14,460 in 1992-93. However, there is a trend of increase in the number of students per teacher, which stands at 52.56 students per teacher in 1984-85, then reached 53.15 in 1992-93. The erratic behaviour in the trend of the appointment of teachers and its influence on the student teacher ratio, generally affects the nature of financing of primary education.

An attempt has also been made to find out the determinants of the enrolment in primary education in the state. The regression results have shown that the economic status and social backwardness of the population represented by SDP and SC and ST population are not the real factors in explaining the low levels of enrolment at primary education. It is found that the increase in the expansion of schooling facilities would positively contribute to enrolment.

The process of education and its growth, has also been looked at from the point of view of the distribution of educational facilities among different groups.

The analysis of the inequalities in the development of primary education in the various social groups in the 23 districts of

Andhra Pradesh, has brought out the fact that there is a decline in the inequalities in the state over a period of time. However, the decline in the inequalities among communities and regions is more sharp in the case of developed coastal Andhra region, than in the Telangana area. Interestingly, the inequalities among boys have increased in the Telangana region. The variation is also found to be sharp in the development of educational institutions in this region. A deeper probe into the unequal development of primary education in the State has revealed that the performance of Karimnager district is remarkable in terms of the fact that the dropout rates among scheduled castes and other backward communities in this district is the lowest at I and III standards. However, its performance at the V standard does not appear to be encouraging.

This study shows that the programme of universalisation of primary education in Andhra Pradesh should identify not only the backward districts, but also the social groups where the dropout rates are found to be high. This will help devise a strategy to overcome this problem, which naturally takes into consideration, the regional, social and other specific conditions of the district.

After examining the growth of the system, an attempt has also been made to study the financial aspects of the primary education in Andhra Pradesh. The structure of expenditure on primary education consisting of the items of expenditure and the sources of finances for the expenditure in Andhra Pradesh, has clearly indicated that around 95 per cent of the expenditure on primary education is devoted to the salaries of the teachers. The expenditure on equipment and appliances and other such items that are essential for the quality of education, have been paid very little attention. Further, they do not indicate any systematic trend in the allocation of funds for these items. However, there seems to be some indication towards the improvements in the quality of education by devoting reasonable amounts to those items from 1974-75. Before the formation of the state in 1956-57, primary education was financed by funds from a number of sources. But, slowly resources from endowments and other private sources have dried up. The government has emerged as the dominant, and almost the sole contributor of finances for primary education in the state.

The more interesting aspect of the allocation of resources among the different levels of education is that primary education used to get around 50 per cent of the total educational expenditure at the time of 1956-57. The proportion was almost reduced to half of its original amount with 27.53 per cent of the funds of the total education sector in 1981-82. This is because the resources for higher education have been increased at the cost of primary education. Further, the limited increase in the expenditure for primary education is further curtailed by the increase in prices. The per capita and per student expenditure on primary education as expressed in constant prices, show that they never reached Rs. 30 and Rs. 300 respectively, during the period of the study. The proportion of SDP devoted to primary education in the state, which is expected to devote at least 3 per cent of its SDP, has not reached even 2.0 per cent by 1985-86. The educational effort of the state, as a whole, compared to the efforts made by its neighbouring states, show that Andhra Pradesh is the second state from below in the country in this respect. This shows that the state of Andhra Pradesh has never paid enough attention in devising rational principles of financing for its educational development. Perhaps, this may be one of the reasons for making Andhra Pradesh one of the nine educationally backward states in the country (as per the 1991 census).

The financing of primary education in terms of the budgetary transactions, has also been studied to ascertain the trends in the growth of budgeted expenditure on education of the Government of Andhra Pradesh. It is found that the budget estimates of expenditure for primary education in proportion to total education, have been declining as compared to higher levels of education. Even the growth rates of expenditure on different levels of education suggest that primary education has recorded the lowest growth rate during the period 1956-57 to 1984-85.

We have also examined the actual expenditure incurred on primary education, and the budget allocation made at the time of budget proposals. It is observed that the actual expenditure on primary education has always been higher than that of the budget estimates. The variation between budget estimates and the actual expenditure on primary education is found to be in the range of 0.98 to 19.85 per cent, indicating the absence of any relationship between the two. An attempt has also been made to find out the total expenditure consisting of plan and non-plan expenditure. It is revealed that plan expenditure constitutes less than 6 per cent of the total expenditure on primary education, and even that amount has been declining over the years. The more interesting aspect of the study of the budgetary expenditure on primary education is, that a distinction between primary education (6-11 years age group) and upper-primary education (11-13 years age group) has not been made in the budget transactions. It has been always mentioned as primary education, which might have concealed the actual trends in the growth of expenditure on primary education. We have worked out the allocations separately for primary and upper-primary. It appears that the government has restricted the expenditure on primary education to around 38 per cent of the total allocations for education sector. But, one important fact that has emerged from all these exercises is that the proportion of expenditure on primary education has been declining over the years. It is further observed that the decline in the expenditure on primary education is specific only to Andhra Pradesh, when compared to the neighbouring states. This shows the neglect of primary education in Andhra Pradesh in the allocation of sufficient funds for its development.

In the third part of the study, the process and the effect of financing of primary education in the state has been studied. It is examined in terms of the test of the economies of scale in the use of the resources for primary education and the costs of wastage.

In Chapter 7 the operation of economies of scale in the management of primary schools in the district of Visakhapatnam has been attempted to represent the conditions in the state. The sample is selected from the government supported schools. It is revealed that the teacher's intensity in primary education, in terms of the proportion of expenditure made on teachers' salaries, is around 95 per cent of the total cost per pupil. However, it has not been possible to conclude that there is a relationship between the size of the school, and the teacher's intensity in the district. There is a marked difference in the rural areas and the urban city in this aspect. It is observed that some amount of the finances is utilized for the quality components of education such as buildings, maps, teaching aids, etc., in the city, while their presence is very meagre in rural schools. A casual examination of the data has shown that the inverse relationship between enrolment and unit cost has been found only in a sparsely populated mandal like Chidikada. The regression results have confirmed that the economies of scale are possible in the management of primary schools in this region. But, no systematic attempt seems to have been made by the government, particularly in the urban areas and thickly populated areas, to plan the schools to reap the benefits of economies of scale.

The analysis of Chapter 8 on the problem of wastage in primary education has brought to light the fact that Andhra Pradesh is one of the few states in the country which has been suffering from low rates of retention. The low levels of retention rates, and thus the high dropout rates are found among the weaker sections of the society like scheduled castes, scheduled tribes and backward classes. An attempt has been made here to estimate the costs of wastage in primary education. We have considered the problem of dropouts as the problem of wastage, since the state has introduced the scheme of non-detention system since 1971, at the stage of school education. Therefore, we have estimated the costs of wastage by following the Q.U. Khan's method, and also adopted our own direct method to estimate the costs of wastage. It is revealed that an amount of Rs.334.78 lakhs in 1961-62 and Rs. 3698.78 lakhs in 1981-82 have been used to educate the dropouts at the elementary stage as per the Khan's method. Our own estimate show that an amount of Rs.232.71 lakhs in 1961-62 and Rs. 1793.87 lakhs in 1981-82 have been used for the dropouts in primary education only. Our figure compares fairly with the figure arrived at with Khan's method, if the expenditure on upper primary education is deducted from the expenditure. The costs of wastage have been compared between periods. The decline in the cost of wastage is found to be around 5 per cent during a period of two decades. This appears to be a healthy sign of development in school education. But it has to be ensured that there should not be any costs of wastage to the exchequer in the near future.

An alternative policy is hinted out in the study to achieve some of the objectives of the government. It is suggested that the expansion of schooling facilities would positively contribute to enrolment. It is necessary to identify educationally backward districts and social groups, to introduce a crash programme of universalisation of retention at the primary stage, by providing all types of incentives to the parents of the children. In order to improve the quality of education, the policy of Operation Black Board (OB) can be introduced in the state, as the financial commitment on this scheme is estimated to be within the reach of the state budget. However, studies relating to the specific problems of groups of people within an educationally backward district, may be undertaken to suggest concrete programme of action to achieve the constitutional objectives of universalization of education, for the age group (6-14), at least by the end of this century.

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Dommeti Pulla Rao is in the Department of Cooperation and Applied Economics at the Andhra University, Visakhapatnam. His areas of specialization are Economics of Education and Agricultural Economics.

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